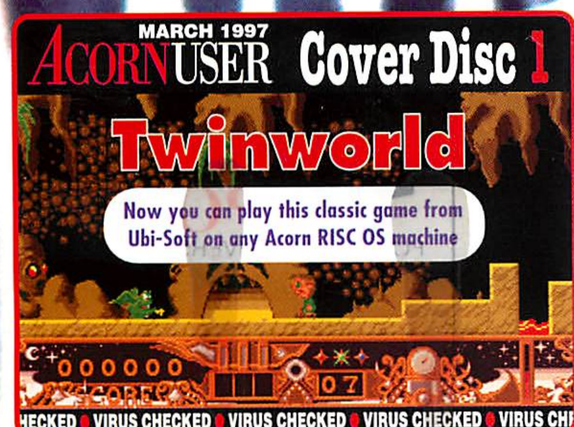
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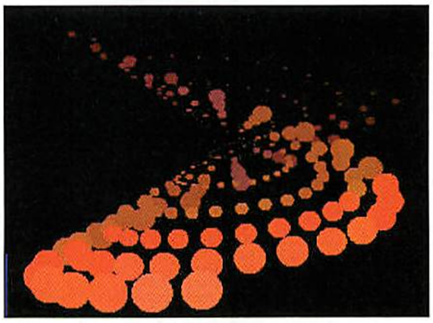
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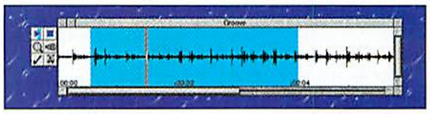
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Xemplar makes a successful BETT debut



IT SEEMS hard to believe that Xemplar wasn't at last year's BETT education show because, then, the joint venture between Acorn and Apple hadn't started operations. Xemplar Education Limited wasn't launched until April last year. So BETT'97, at the beginning of January, was Xemplar's BETT debut and for its efforts, it came away with no less than two prizes in the Educational Computing and Technology awards and enjoyed exceptional attendance on its stand during the show.

Brendan O'Sullivan, Xemplar Education's managing director, said: "To win one of the prestigious Educational Computing and Technology awards in our first year of operation is a fantastic achievement. To win two is a vindication that the research and development which has been invested in our solutions has been worthwhile. The awards confirm that our solutions-led approach is the best for education and we are looking forward to more wins in years to come!

"BETT '97 was a very exciting event for Xemplar. Being the company's first BETT, it gave us the opportunity to demonstrate and show visitors the progress we have made in the months since our launch. It also gave many of us a chance to catch up with some old friends and colleagues. Particularly encouraging for myself was the massive interest shown in the new technology demonstrated on our stand, highlighting the fact that the schools community is keen to embrace a new era in educational IT."

Xemplar's award winners were the Xemplar Junior Toolbox for RISC OS and the Pocket Book which won silver awards in the Primary Hardware and new Home Computing categories respectively. Meanwhile, Acorn's StrongARM processor card won a gold award in the Secondary Hardware category.

One of the main attractions at the Xemplar stand was a working intranet (private Internet operating over a local network) which was also connected to the global Internet. The 'live' stand was designed to demonstrate how a school can share resources, create Web pages and connect to the Internet as well. Acorn's Network Computer and Apple's interesting new Newton-based eMate 300 portable computer for schools also attracted much attention.

The concept of the school being the hub of a local community-wide high-tech learning network was also being promoted by Xemplar. The theory is that while children might think they spend a lifetime behind the school gates, in fact classes only make up a small fraction of a typical year and an increasing amount of learning is taking place in the home and other places through the use of portable computers, computers at home and the Internet.

Xemplar also introduced its new Xemplar Curriculum Centres (XCCs), a UK-wide network of customer information and support centres designed to provide guidance in the light of the increasing number of curriculum initiatives in the local government, grant maintained and Independent sectors.

Xemplar Education Limited, tel: (01223) 724200, fax: 01223 724 300. Web: http://www.xemplar.co.uk/



And the rest...

ANT's *Internet Suite* won a gold award in the Educational Computing and Technology awards held at the recent BETT'97 show. ANT's award was in the Secondary Software category and director Martin Coulson accepted his company's accolade from Gillian Shepherd MP, the Secretary of State for Education. Coulson commented: "We are extremely proud to have won this prestigious award and would like to thank all the customers who nominated us. I would also like to thank the team at ANT who have worked on developing the Internet Suite and supporting our users in education."

Congratulations also to RComp who received the bronze award in this category for *HTMLEdit 2*.

For the third year John Crick of Crick Software has scooped the EC&T BETT Gold Award in the Special Needs category, in recognition of the easy-to-use *Clicker* range of products. On collecting the award John Crick said: "I am extremely delighted to receive this award. I am sure that Clicker 2 has become so successful because we were able to incorporate so much feedback from the users themselves."

The silver award in his section went to SEMERC for the Rollerball Plus.





In the Primary Software section SoftEase came out on top receiving the Gold award for *Talking TextEase*. Geoff Titmuss of SoftEase said: 'We are absolutely delighted to win this prestigious award, and very pleased that so many people agree that *Talking TextEase* is 'simply the best'. The Gold Award is certainly a major milestone on our road to success'. *Science Explorer* (YITM) got Silver and *Junior Sibelius* received the Bronze award.

ART also received a gold in the Secondary Hardware section for the StrongARM.

Well done to everyone.

US interactive TV technology deal

The Curtis Mathes Holding Corporation has announced that the company's forthcoming line of UniView interactive television products will be based on ARM processor technology. Both Acorn and ARM worked together to win the Curtis Mathes business, and *Acorn User* sources say Acorn is especially pleased with the deal because Curtis Mathes decided to drop a Motorola-based project in favour of ARM after seeing what Acorn had already achieved with ARM.

"By choosing Acorn's RISC-based technologies, we have ensured that our products will perform with the superior graphics and features demanded by today's consumers," said Curtis Mathes chairman and chief operating officer Patrick A. Custer. "We are convinced that working with Acorn will allow us to accommodate our need for greater expandability in the future to keep our products on the cutting edge."

Acorn's ART director, Peter Bondar, commented: "This is another example of a major company investing in the use of Acorn technology. Curtis Mathes came to us to provide a range of technologies because they were aware of our flexibility and experience in this market. We were very quickly able to provide a solution for their market requirement proving again Acorn's ability to allow a customer a real-time-to-market advantage."

Curtis Mathes' UniView set-top products are expected to retail in the US for less than $400 (£250) and the technology will also be integrated into a line of Curtis Mathes premier television sets.

Stop thief!

RS COMPONENTS, better known as a supplier of electronic and electrical components from resistors to batteries, is introducing security products including clamp plates, cable kits, screw-on kits, notebook lock kits, computer peripheral security locks and base locks. Some of the kits are also suitable for similar sized items of equipment, like audio and video units.



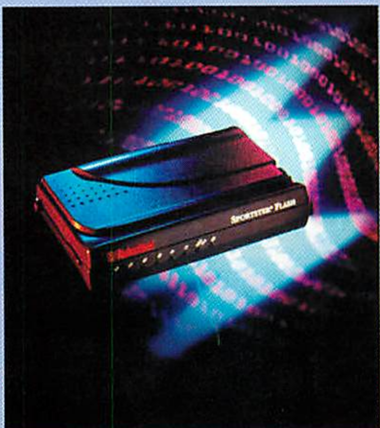
The market for solutions to prevent computer theft is growing very fast, with government figures revealing that there has been a 60 per cent rise in computer-related theft in the last two years. the average value of items stolen amounts to £25,000. Schools and homes are especially vulnerable, exactly the kind of place you might find an Acorn computer.

RS Components, tel: (01536) 201234, fax: (01536) 201501.

Flash by name..

THE UK'S NUMBER one modem supplier, US Robotics, has started supplying the latest version of the best-selling Sportster modem family. The Sportster Flash, as its name suggests, uses flash memory so enabling new features to be added via software at a later date. This has been possible with USR's more expensive Courier modems for some time.

As initially supplied, the Sportster Flash is visually and operationally much like its immediate predecessor, the Sportster Voice. This means it can operate at either 33.6K bits/sec or 28.8K bits/sec, depending on the remote service you're connected to and it has voice and fax modes. A free software upgrade to update the modem's flash memory will soon be available to virtually double the performance of the modem when connected to certain services.



The upgrade will add a 'x2' 56K bits/sec mode which is steadily being supported by an increasing number of on-line service providers. Depending on the kind of data being transmitted, in x2 mode, the Sportster Flash will be able to send or receive data at around 10,000 bytes per second, making a megabyte data transfer take less than two minutes. Registered Sportster Flash owners will be able to download the software from USR's bulletin board.

UK Internet service providers UUNET Pipex, CompuServe, Netcom, Cable On-Line, AOL, Cable Internet, Virgin Net and Which On-line have all committed to providing 56Kbps dial up ports for their users some time this year. The Sportster Flash has a suggested price of £229, which includes a five year warranty.

US Robotics Limited, tel: (01189) 228 200, web: http://www.usr.co.uk

Xemplar gets Photorealistic

Xemplar has declared that it is committed to supporting Canon's interesting enhanced colour bubble jet printing technology, called Photorealism, for RISC OS. Drivers fully supporting Canon's new Photorealism printers are expected to be announced by the end of February, according to a Xemplar spokesman. Xemplar has also announced RISC OS support for selected Apple flat bed colour scanners.

CC need ARM programmers

If you believe you are an expert ARM programmer and you have nothing better to do, Computer Concepts would like to hear from you. Several contract opportunities need to be fulfilled at CC to supplement in-house work. For more information, contact Kate Moir at CC: E-mail kate@cconcepts.co.uk, or tel: (01442) 351 000.

Acorn re-groups

Last year we witnessed Acorn's public partitioning into separate business divisions, like Acorn RISC Technology (ART), Acorn Online Media (AOM) and Acorn Network Computing (ANC). These divisions had their own phone numbers and their own distinct identities.

However, Acorn is now retreating from this idea. An informed source tells us that last year Acorn felt it needed to create a new identity which underlined its core technology disciplines and separated it from the educational computing tag, which is now owned by Xemplar. Now it's time to concentrate on the 'new' Acorn as a group of companies under the Acorn banner once more. The divisions will continue to have their own names and identities but they have less emphasis in the group's public exposure.

Plus now the phone answers 'Acorn Group' once more!

news

The future on the Web is... orange

Jaffa Software, the company which brought you *WimpWorks*, has set up its own Web site on the Internet. WimpWorks is a RISC OS desktop application development tool. Jaffa say that instead of settling for another attempt to market a product, their new Web site is a "dynamic environment in which users can exchange hints and tips and download applications developed by other users of WimpWorks. You can also download a free demo version of WimpWorks from the site. The Jaffa Software site sounds interesting, even though its address – http://www.warwick.ac.uk/~csube – is somewhat cryptic!

You can also contact Jaffa Software via e-mail to: jaffa@cryogen.com

CC Canon BJC-620 deal

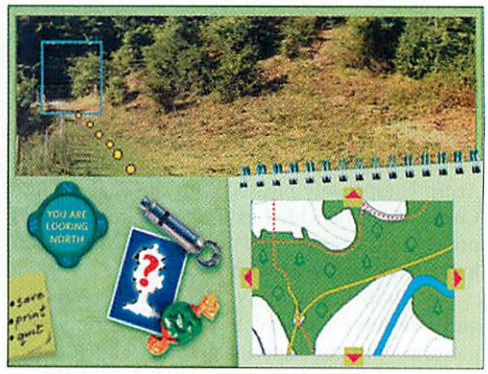
When the original Canon BJC-620 was launched three years ago it had a princely price of over £600. Canon have since made the printer better, faster and sharper and now CC is selling them, complete with TurboDrivers, for just £279 + VAT. The Canon 600-series is notable because it uses separate ink cartridges for each primary colour. You will be able to see the Canon BJC-620 and all the other CC products, including bargain specials on multimedia products, at the forthcoming Wakefield show. Finally, networked server versions of Impression and ArtWorks now support a wider range of network cards.

New West Midlands Acorn user group

The first meeting of a new Acorn user group in the West Midlands was scheduled to take place in Dudley on Friday 7th February. The West Midlands Acorn User Group (WMAUG) will then meet every other Friday thereafter between 7pm and 9pm at the St. Thomas's Community Network, Beechwood Road, Dudley, West Midlands. WMAUG meeting's will feature talks, demonstrations, help and support, including annual bring and buys, etc. For more information, please contact Andrew Timmins at either: e-mail andrewtimmins@castlehighsch.campus.bt.com or phone: (01384) 865580 (after 5pm).

Mapping the detectives with Sherston





SHERSTON SOFTWARE, the learning software specialist, will feature the work of its best selling author, Simon Hosler, on a CD-ROM title for the first time. The new title, *Map Detectives*, is to be released in April. Map Detectives is an interactive multimedia-enhanced package which teaches mapping and compass skills.

According to Sherston, the teaching of geography is an area not particularly well served with software. Map Detectives is aimed at 8 to 12-year-olds and was developed on Sherston's own authoring system, *Playbook*. Map Detectives will cost around £45 when it is released in April and the CD-ROM will be triple (Acorn/Mac/PC) standard.

Sherston Software, tel: (01666) 840 433, fax: (01666) 840 048, e-mail: info@sherston.co.uk

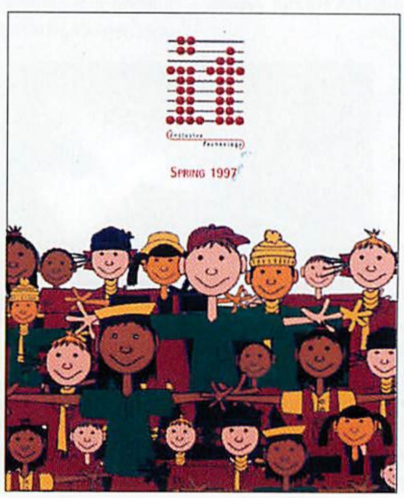
Acorn appoints second Far East agent

ACORN IS TO BE represented by a second official agent in the Far East. Multimedia software consultancy MPT in Japan will link Acorn directly with potential customers there. MPT is a 35-strong company headed up by Matsuo Yoshimoto. The company has an impressive client list and has built up a reputation for Internet multimedia solutions.

MPT will provide Acorn with localised sales and marketing of its product development facilities. MPT will also help in any work which may be needed to adapt products or technology to the local requirements of language, etc. Last year Acorn appointed Conhan Co. Ltd as its representative agency in Korea. Conhan is an IT product and service organisation, specialising in the multimedia and Internet related sector of the Korean technology marketplace.

Macromedia Director for PD CD-ROM

ACORN TOOK out a licence to provide support for Macromedia Director multimedia applications over a year ago, ostensibly for Online Media set top box developments. However, there is a growing demand for the technology to be supported on ordinary RISC OS. New education software company, Inclusive Technology, has just announced a suite of special needs software which was developed using a Macromedia Director authoring package for Apple and Windows platforms. Inclusive Technology's development director, Trish Hornsey, told us: "We'd love to port these programs to the Acorn platform but Acorn doesn't support Macromedia Director." When we reminded her that Acorn had actually licensed the technology some while back she asked if we could find out if Acorn was going to implement it for RISC OS. Yes came the answer from Acorn's ART director, Peter Bondar: "We should be ready to release it in two to three months."

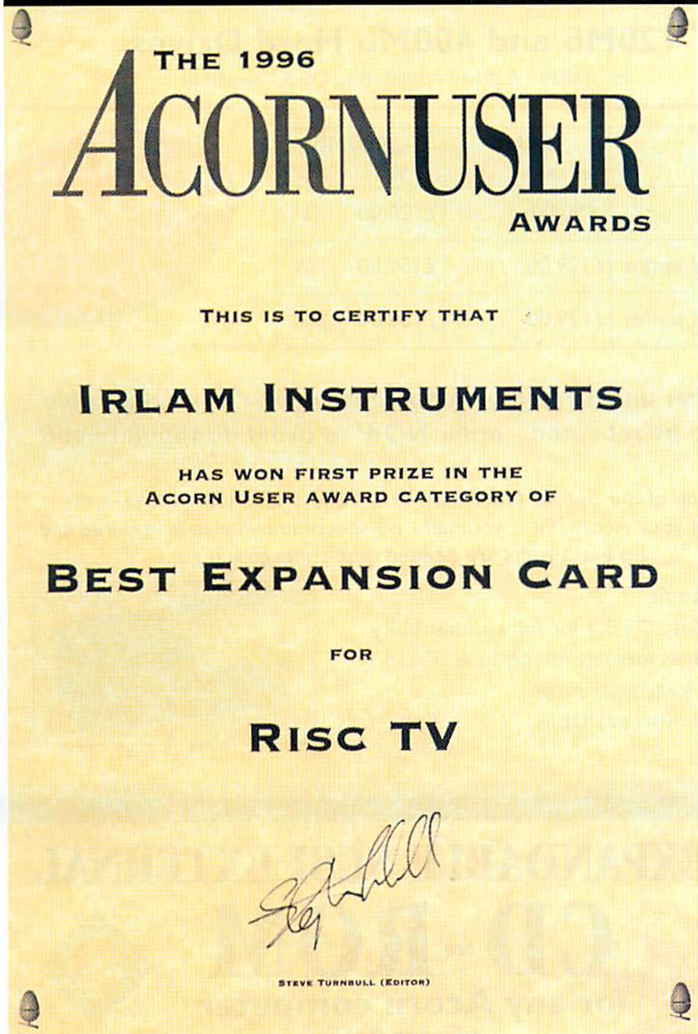


Apparently development software is already being evaluated by selected third-party Acorn software developers. The arrival of Director capability will undoubtedly provide access to an important selection of applications developed using the Macromedia technology.

Risc TV

The *Award Winning* Desktop Television System is only £298.45!*

***Price of the complete package including expansion card, software, postage and VAT**


THE 1996

ACORN USER

AWARDS

THIS IS TO CERTIFY THAT

IRLAM INSTRUMENTS

HAS WON FIRST PRIZE IN THE
ACORN USER AWARD CATEGORY OF

BEST EXPANSION CARD

FOR

RISC TV

STEVE TURNBULL (EDITOR)

Risc TV is a unique multimedia digitiser complete with built-in television tuner and audio processor. It allows you to watch television on the desktop and digitise high quality still images from the tuner or an external video source.

Risc TV uses hardware to update the screen, so your computer runs at full speed and the real-time display is always true colour (24 bit) irrespective of screen mode. The display can also be scaled to any size or made full-screen.

There is simply no other expansion card which can come close to **Risc TV's** image size, colour depth and speed of update. In recognition of this performance, Acorn User have given **Risc TV** the '1996 Best Expansion Card' award.

Risc TV Features

- ❒ 24 bit framestore providing 16.7 million colours updated at 50Hz.
- ❒ Real-time display sizes of over 1024 x 768.
- ❒ No DMA slot required. Risc TV even works on A5000's!
- ❒ No processor power required to update the video window.
- ❒ Real-time control of scaling, filtering, contrast, brightness and saturation.
- ❒ On-board TV Tuner covers all VHF and UHF channel frequencies.
- ❒ Tuners suitable for European and other TV systems available on request.
- ❒ Auxiliary inputs for composite video and S-VHS sources.
- ❒ Audio support including control of bass, balance and treble adjustments.
- ❒ TV tuner fitted as standard.
- ❒ Modular system provides support for future expansion and upgrade.

Optional Upgrades

A teletext hardware module is already available for **Risc TV**. This comes complete with software at the very modest price of £45.83 including VAT.

Teletext pages can be selected and viewed in the desktop, and subsequently saved as sprite or plain text files, for use with other applications. Fastext and index page links are fully supported

We are working on at least one other major upgrade to be released in the coming weeks!

For the Complete Picture...

Irlam Instruments Ltd, Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex, UB8 3PH. Tel/Fax 01895 811401. Email: sales@irlam.co.uk

Please note: **Risc TV** works on A5000 & RISC PC machines (requires one free expansion slot). You must have RISC OS 3.1 or later, a hard disc and 2Mb RAM minimum. **Risc TV** has a full 1 years guarantee. E & OE.

Access

VISA

Acorn

CASTLE TECHNOLOGY

The UK's premier Acorn peripherals manufacturer

NEW SINGLE-PASS versions

Introducing

THE NEW HIGH QUALITY SCANFLAT II

SCSI Flatbed scanner plus SCSI II Interface

The single pass high quality Scanflat II range of A4 flatbed scanners is a new and improved version of the highly successful Scanflat series. With a new compact footprint to save space, and improved scanning speeds, the Scanflat II provides both quality and ease of use for the busy office or classroom. Available now in 600dpi and 800dpi versions.



Scanflat II 600 & 800

- New versions with 400x290mm footprint
- High resolution Scanflat 1200 still available
- Line art, grey or 24-bit colour modes
- Pre-scan colour/brightness control
- Free ImageMaster Software & TWAIN driver
- Full 1 year guarantee

SCSI II INTERFACES from £66

(when bought with Scanflat II Scanner):

A3000, A3010, A3020, A4000 **£66** (£77.55)

A310*, A400, A540, A5000, RiscPC, A7000* **£72** (£84.60)

Castle Technology's plug-&-play software allows up to 7 SCSI peripherals to be connected. Free software includes !Setup (SCSI), PhotoView, CDPlayer, and !Change FSI.

*Backplane may be required



Use the Scanflat range to reproduce beautiful photos like this!

Price in brackets includes delivery and VAT	Brochure Price	Offer Price
Scanflat II 600 (600dpi)	£449 (£539.33)	£249 (£304.33)
Scanflat II 800 (800dpi)	£549 (£656.83)	£299 (£363.08)
Scanflat 1200 (1200dpi)	£699 (£833.08)	£349 (£421.83)

SPECIAL PURCHASE

120Mb and 400Mb Hard Drives

for A3020 / A3010 / A3000 (Risc OS 3.1 required)

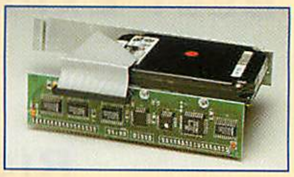
	120Mb		400Mb	
	ex VAT	inc delivery & VAT	ex VAT	inc delivery & VAT
A3020	£90.00	£117.50	£120.00	£152.75
A3010 incl Interface	£129.00	£163.33	£159.00	£198.58
A3000 incl Interface	£129.00	£163.33	£159.00	£198.58

FROM £90 £117.50 inc delivery & VAT incl fixing kit

A further unexpected bulk purchase allows this unbeatable offer to be repeated - order NOW to avoid disappointment!

Get one of our Special Offer hard drives and dramatically increase the power of your Acorn. Fit it yourself - no special knowledge is required and no extra parts are needed. Just connect and go!

- Easy to fit
- Uses Risc OS 3.1 for full compatibility
- All drives formatted and soak tested
- Full 1 year guarantee
- 500Mb also available



AN EXPANDABLE SCSI EXTERNAL CD-ROM

for any Acorn computer (except A4) for only £99

(£128.08 inc DELIVERY & VAT)

CD-ROM in Combo Case c/w 25/50 SCSI cable, power cable, headphones, CD driver s/w for any SCSI card and full 1 yr warranty (SCSI I/II interface inc CDFS req'd)

Available now! Call 01728 621222

The unique expandability of SCSI makes it so easy to install extra SCSI hardware, and Castle Technology is delighted to be able to make this once-in-a-lifetime CD-ROM offer. Make use of the wealth of CD-ROM material available as well as playing audio CDs direct from your computer.





Combo Case with CD-ROM

Replay, Audio player, PhotoCD etc compatible

SCSI II INTERFACES from £66

(when bought with CD-ROM):

A3000, A3010, A3020, A4000 **£66** (£77.55 inc VAT)

A310*, A400, A540, A5000, RiscPC, A7000* **£72** (£84.60 inc VAT)

Castle Technology's plug-&-play software allows up to 7 SCSI peripherals to be connected. Free software includes !Setup (SCSI), PhotoView, CDPlayer, and !Change FSI.

*Backplane may be required

Use spare slot for other SCSI devices: Hard drives up to 2Gb from £39 (100Mb), Panasonic PD (600Mb optical + CD), SyQuest, Jazz, Zip etc. removable drives.

Faster CD-ROM drives are available as an option - *Call for details*

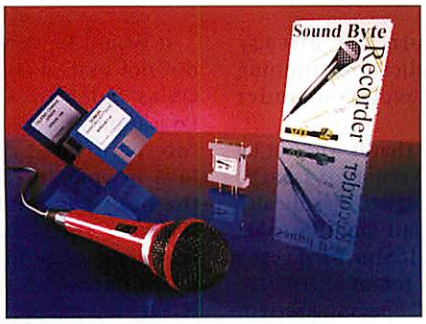
ORDER NOW! CALL 01728 621222 or order by FAX ON 01728 621179

Delivery £10 (£11.75 inc VAT) per order.
Prices exclude VAT unless otherwise indicated.
Cheques (allow 5 working days to clear), debit cards (Switch & Delta), credit cards (2% charge may apply), and educational orders accepted.
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Web: http://www.castle-technology.co.uk

news

Argo's Sound Byte recorder

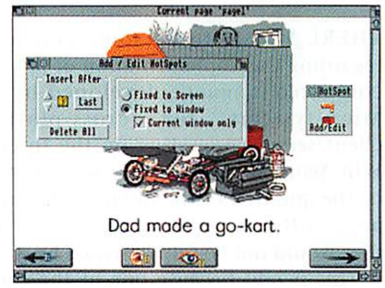


ARGO INTERACTIVE has produced a low cost digital sound recording kit called the Sound Byte Recorder. The £49 package includes a microphone and the Sonor sound editing program. The microphone plugs directly into the mic socket of most Acorn computers and can be used with other audio recorders, like tape recorders, for example. You don't even need to use the microphone of course, simply record from a suitable audio source using a direct lead.

Argo Interactive Ltd, tel: (01243) 815 815, fax: (01243) 815 805, e-mail: info@argonet.co.uk

Switching on special needs

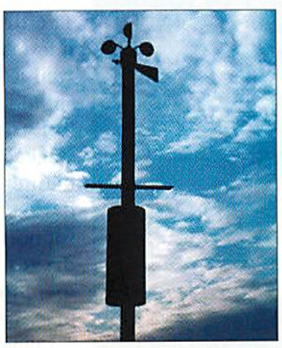
THE ACE Centre, based at Ormerod School in Headington, near Oxford, has announced a new program which was developed in conjunction with SEMERC. *HotSpots* is an interface program which enables special needs switch gear to control other programs instead of using a mouse or a touch screen.



HotSpots works by providing a number of hidden command buttons on the screen that can be revealed by operating the switch. Users can then scan through the commands and choose the correct one at the right time by continuing to use the switch. The ACE Centre believes its mouse alternative is simpler and easier to use than others on the market.

The ACE Centre, tel: (01865) 63508, fax: (01865) 750188, e-mail: acecent@dircon.co.uk

Weather Reporter gets an update



THE AUTOMATIC data logging weather station supplied by The Advisory Unit/Computers in Education, has been endowed with new software which aims to make the weather station faster and easier to use.

The *Weather Reporter* hardware comprises a mast which installs on a roof and is linked via a cable to your computer. The mast can measure and log wind speed, direction, temperature and rain fall 24 hours, 365 days a week. Virtual reality may be very trendy but a resource like this, relating what is actually happening all around you, tends to generate added fascination and interest among students.

The complete Weather Reporter outfit is priced £395 + VAT, however, existing users can upgrade their software only for just £55 + VAT.

The Advisory Unit, tel: (01707) 266714, fax: (01707) 273684, e-mail: sales@advisory-unit.org.co.uk

Smiles please for Irlam

EPSON'S NEW PhotoPC 500 digital camera can now be used on the Acorn platform thanks to Irlam Instruments. The PhotoPC 500 looks very much like a traditional 35mm compact camera but where you might find the film chamber you will instead find 2Mb of memory for storing 30 or 60 images, according to the resolution mode selected.

The maximum frame resolution of the PhotoPC 500 is 640x480 pixels, captured in 24-bit colour. JPEG-style image compression is used to reduce the 900K of raw image data down to a more manageable 68K per picture. To double the number of pictures which can be stored on the PhotoPC 500, you simply switch to a half-resolution 320x240 mode. Add-on RAM is available to boost the image capacity to 200 shots. A built-in flash with red-eye reduction is featured.

The Irlam contribution is the Epson to Acorn transfer software which accesses the camera's memory via a serial port connection. You are able to view thumbnails of images stored in the camera and then selectively download the images required. Images can also be exported in standard JPEG or Acorn Sprite format.

Irlam is selling the Epson PhotoPC as an Acorn-ready kit for £499 including VAT.

Irlam Instruments, tel/fax: (01895) 811401, e-mail: sales@irlam.co.uk

Atari compatibility card?

ACCORDING TO THE Acorn CyberVillage on the Web, a German company is possibly building a Motorola 68030 co-processor card for the Risc PC, expressly to provide Atari TT emulation. Now defunct, Atari at one time had a huge following in Germany and there are still a sizeable number of Atari devotees. The Atari TT was one of the last computers Atari produced before it went under.

The TT was the ultimate development of the once-common Atari ST. While the latter was mainly used for games and MIDI music work, the TT was considered – in its time – to be a powerful workstation for CAD and other graphics applications. Several German software houses produced some interesting graphics packages for the Atari platform.

Although Acorn Germany was a victim of Acorn's recent re-structuring, it too has an enthusiastic following there, partly through the demise of Atari and its rival Commodore. In a sense, Acorn has replaced the Atari TT/ST and the Commodore Amiga as the German computer enthusiasts' icon which represents defiance against the Wintel bandwagon. So, we shouldn't be surprised to hear that a German company might be building an Atari emulation for the Risc PC.

That German company is apparently Riscy Bits of Bonn. Acorn CyberVillage suggests the card will be the hardware for an Atari TT emulator and it might even include Atari's much-vaunted DSP (digital signal processor) which would enable it to emulate an Atari Falcon games console. We tried repeatedly to contact Riscy Bits, but despite leaving messages on its answering machine, we were unable to get a response. If we have any further news we will bring it to you as soon as we can.

Riscy Bits are at: FriedrichstraDFe 47 53111 Bonn, tel: +49 228 690 034, fax: +49 228 690 034.

The Java question

THERE SEEMS to be some confusion regarding the implementation of Java, the computer language developed by Sun Microsystems for cross-platform client/server computing on the Internet. Will Acorn support Java or not? seems to be the question of the moment. A rumour apparently started on the Internet that Java would not be implemented by Acorn.

This is odd because one of the fundamental requirements of a Oracle reference platform Network Computer is that it supports the running applications written in Java. Acorn has already demonstrated Java applications running on the NC it has developed under contract for Oracle.

Acorn has made clear that it will not be implementing its own version of JavaOS, an operating system designed specifically for NCs. As featured in last month's issue, Acorn's NC chief, Malcolm Bird, says there is no requirement for an alternative to the RISC OS-based NC operating system (NCOS) Acorn already has and that's exactly what JavaOS would represent.

It would be very odd indeed if Acorn did not extend its Java support to RISC OS as much of Acorn's and Xemplar Education's future strategy for RISC OS is Internet-related and if you don't have Java in your Internet armoury (pardon the pun) you might as well sit on the sidelines. The inclusion of Java is just as important as ensuring Web browsers are up-to-date with the latest version of HTML, for example. The speculation that RISC OS would be Java-less seems to have been conceived rather prematurely.

Cumana launches portable PD CD-ROM drive

THE PARALLEL proTeus is the name of Cumana's new portable CD-ROM drive, which can also function like a slow external hard drive. The drive is a PD device, PD being a standard developed by Panasonic and others, which enables a PD-enabled CD-ROM drive to accept re-writable optical disc cartridges as well as conventional read-only CD-ROMs. For ordinary CD-ROMs, Cumana's Parallel proTeus operates at 6X speed, while the PD section can store up to 650Mb of data per PD disc cartridge.



The drive is housed in a tough metal case and can be attached to both Acorn machines (second generation models with bi-directional parallel ports) and PCs. Spare PD cartridges cost £30, which means each disc will store nearly 22Mb of data for a single pound or less than 5p a Mb. The recommended price for the Parallel proTeus is £449.

Meanwhile, Cumana has made some enhancements to its 32-bit DMA SCSI II card. The driver is fully compliant with all the latest Acorn models and RISC OS releases, as well as StrongARM. On-board flash memory should also make it future proof. New icon bar tools enable multiple drives to be stacked in order to save space and you can define different icons to represent different drives. PC formatted media is also supported, so SyQuest and the new proTeus drives can now be used. Finally, most mapping and configuration options can be managed from the drive's icon bar.

Cumana, tel: 0114-281 3344, fax: 0114-243 9306

PCs meet NCs

WHILE NETWORK Computers (NCs) will find their niche, they won't fulfil the dreams of ubiquity which are hoped for by proponents of the NC industry. That's a rough summary of the latest report on NCs from the influential market intelligence form, Forrester Research. Their report predicts that ordinary dumb terminals will become extinct because of the NC but PCs will emerge virtually unscathed from an assault by the introduction of NCs. Much of the current optimism in Acorn's future prospects rides on the back on the expected success for its NC products.

"Sun and Oracle have visions of NCs dethroning Microsoft-powered PCs from the corporate desktop but companies will not dump their huge installed base of PCs when these devices finally ship," says Tom Rhinelander, Forrester analyst and report author, He adds: "NCs will be very successful, though as replacements for the millions of existing dumb terminals. Companies are scrambling to get all their users on the Intranet and NCs offer IT a less expensive way of upgrading terminal users on the Internet and Java capabilities than complex hard-to-manage PCs.

"Upgrading dumb terminal users to NCs will finally allow IT to ditch PROFS and other legacy applications while simultaneously opening up the exploding Intranet development to a whole new set of users." Rhinelander added: "With basic Internet and Java capabilities similar to PCs, NCs allow corporate developers to target all employees with new applications and information."

Forrester also makes a surprising prediction that IBM will establish itself as the leading NC vendor, overtaking NC pioneers like Sun and Oracle and other smaller vendors like Acorn. Forrester suggests IBM will offer free server software and NCs plus server bundles as well as terminal replacement programs to jump-start the NC market.

The problem with Forrester's view of the NC market is that it seems to ignore a basic concept which drives the NC cause along; that the NC will strive to be as ubiquitous as the telephone. French telephone subscribers can already replace their printed phone book with a Minitel terminal. An NC is an infinitely more powerful device than a Minitel – which, incidentally is a dumb terminal! However, mass-market NCs need cost no more than a Minitel to make.

It is probably wrong to expect the NC revolution to sweep away the PC. However, there are plenty who would also say the assumption that NCs will simply replace a relatively small number of dumb terminals in niche markets – is equally flawed. Forrester's report is called "PCs Meet NCs" and is part of Forrester's Computing Strategies research service. Forrester's web site is at http://www.forrester.com

Showroom open Mon-Sat 10-18.00 hrs (All prices INCLUDE VAT) Carriage not included

CD-ROM Drives

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card with CDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal ATAPI CD-ROM Drives

Panasonic 8xCD ATAPI (Tray)	£80b
Cable & Fitting Kit	£10a

Above drives are compatible with RiscPC/A7000 only.

Internal SCSI Drives (Tray)

Sony 2x CD SCSI 275ms	£80b
Pioneer 12x CD SCSI 130ms	£Callb

External SCSI CD-ROM Drives

Sony 2x CD SCSI 275ms	£135c
Pioneer 12x CD SCSI 130ms	£Callc

For SCSI interfaces refer to Hard Disc section adjacent.

Hard Discs

Carr.: a=£2, b=£6, c=£8

IDE 3½" Bare Hard Drives

Seagate (Connor) 1Gb	£150b
IBM 2.1Gb	£200b

ForA3000/A3010 hard discs see Hard Card section below.

SCSI 3½" Bare Hard Drives

IBM 540Mb	£170b
Fujitsu 1Gb	£250b
IBM 2Gb	£300b

Syquest Removable SCSI Drives

All following Syquest Drives include a Cartridge.

105Mb Internal	£109b	105Mb Cartridge	£29a
EZ230 External	£242c	EZ135Mb Cartr.	£20a
270Mb Internal	£165b	EZ230Mb Cartr.	£21a
270Mb External	£245c	270Mb Cartridge	£40a

Hard Disc Interfaces/Accessories

IDE interface	£85b	50-50C SCSI Cble	£10a
Morley Uncached	£113b	25D-50C SCSI Cbl	£10a
Morley Cached	£165b	SCSI2-50C Cable	£18a
Cumana SCSI II	£175b	SCSI2-25D cable	£18a
PowerTec SCSI2	£195b	50IDC 4-way SCSI	£10a
		50C Terminator	£10
		50HPC Terminator	£15
External case/psu	£90c	2nd IDE Drive Kit	£15a

zip/jaz Drives

- zip & jaz Drives work just like hard drives except they are removeable, letting you instantly access files and applications.
- zip drives use 100Mb capacity discs & jaz drives use 540Mb/1Gb discs allowing any number of discs giving unlimited capacity.
- The drives are fast. Data transfer speeds around 1Mb/s for zip drives & >2.3Mb/s for jaz drives - ideal to backup your hard drive.
- Each drive comes with 1 year warranty and a starter disc.
- These drives require a SCSI card that is suitable for removeable devices.

Internal zip drive (5¼")	**£145c**
External zip drive	**£145c**
Single 100Mb zip Cartridge	£15a
Pack of 6 zip Cartridges	£65b
Internal 1Gb jaz drive (3½")	**£350c**
External 1Gb jaz drive	**£430c**
Single 540Mb jaz cartridge	£Call
Single 1Gb jaz cartridge	£73a

TopicArt

TopicArtCD1 £20a

This CD-ROM Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + Replay Movies & demos

Floppy discs £8a each

Single disc clipart containing approx. 50 high quality draw format clip art images on each disc, on a single subject. Comes with mono reference sheet. 20 subjects are available now. Please specify when ordering. Site licence is included.

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4 Entertainment	14 Fire/Emergency Signs
5 Bugs 2 Slugs	15 Hazard Signs
6 Road Signs	16 Safety Signs
7 Sports Equipment	17 Xmas1
8 Sports Figures	18 Xmas2
9 Dinosaurs	19 Xmas3
10 Symbols	20 Xmas4

RiscOS Computer Systems

All include 1yr on-site maintenance. 3yr On-site is available. **Carriage included on computer systems.** For PC Cards see section below. **All machines are single slice & have a backplane fitted except the 4Mb machines.**

Special Offers - Trade-in your old RiscOS, PC, Amiga or Atari computer for a £200 discount! **Purchase** any Acorn computer (not incl NetStations) and get a TopicArtCD AND (QuickTile OR QuickLynk+5m cable) FREE.

Computer Model with	14" Monitor	17" Monitor	No Monitor
NetStation (28k modem or 10bT Ether)	£725	£1100	£460
A7000 4MHD540	£1099	£1475	£835
A7000 4MHD540+8xCD	£1169	£1545	£905
RiscPC700 4MHD540	£1299	£1675	£1030
RiscPC700 4MHD540+8xCD	£1369	£1745	£1100
RiscPC700 5MHD540	£1449	£1825	£1180
RiscPC700 5MHD540+8xCD	£1519	£1895	£1250
RiscPC700 10MHD1Gb	£1599	£1975	£1330
RiscPC700 10MHD1Gb+8xCD	£1669	£2045	£1400

Deduct £65 for iiyama MF-8617E or Add £5 for iiyama MT-9017E.

StrongARM (when purchased with a RiscPC) **£116**

20/20 Finance on Acorn computers - ~20% deposit & 20 interest free monthly payments. Loans from £700(min) - £2000. Subject to status.

QuickLynk (v1.04) £32a

With 5m Local Cable	**£39a**
With 10m Local Cable	**£45a**
With 20m Local Cable	**£52a**

QuickLynk allows you to access another unattended RiscOS computer remotely using the serial port via modems or locally using a cable to connect the 2 computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/ user. Transfer rates up to 1.9 kbytes/s can be achieved with older computers, eg. A410, A3000, rising to 11.4 kbytes/s on the RiscPC range. The transfer rate is limited by the speed of the serial port. QuickLynk cannot at present be used directly from programs/ command line. Requires RiscOS 3.10 or greater, ring for details.

QuickTile (v1.03) £29a

QuickTile allows you to create posters from ANY RiscOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. New features include the facility to print inverted crop marks or no crop marks. QuickTile can only be used with the RiscOS printer Driver or TurboDrivers.

Requires RISCOS 3.10 or later.
Return disc to upgrade for £4.
Upgrade from Tiler for £18.

Mail Order - 0161-474 0778 (All prices INCLUDE VAT) The lowest prices without compromise

RiscPC PC Cards

A=Upgrade from ACA42 or bought with RiscPC, B=purchased seperately. Carr.: £6

PCCard	A	B
5x86-100	£350	£460
486DX4-100	£230	£350
486DX2-66	£175	£290
PC Pro (without PCExchange)		£40
Window '95 CD (Full)		£90a

The above can be installed directly from CD without previously installing PCDOS/MS-DOS.

RiscPC Upgrades

Carriage: £3 for Sound Cards

StrongARM Upgrade	£275b
2nd Slice with PSU	£117c
2nd Slice without PSU	£90c
YES 16 bit Mozart Card	£70a

Memory

The current price trend is up as at 03/02/96. The following prices are whilst stocks last.

RiscPC/A7000 SIMMS

4Mb	£25a	8Mb	£30a
16Mb	£62a	32Mb	£125b

RiscPC VRAM

1Mb 2nd user	£45	2Mb	£120
1-2Mb u/g (exchange)			£90

Call for details of memory for other models.

Monitors (Carriage £10)

Older computers will require an adaptor	£12
AKF50 14" 0.28dp	£315
Ilyama MF-8617E 17"	£575
High spec FST Tube with 0.26" dot pitch	
Ilyama MT-9017E 17"	£645
Very High spec Diamondtron tube, 0.25" stripe	

Printers (Carriage £8)

Canon BJC-240	£200
Canon BJC-4100	£220
Canon BJC-4200	£250
Canon BJC-4550 (A3)	£360
Canon BJC-620 (720dpi)	£350
HP LaserJets Printers	£Call

Add £47 to above printers for TurboDriver

I³ Networking (Carr. £6)

A30X0 EtherLan 102	£140
Archi EtherLan 514	£140
RPC/A7k EtherLan 602	£120

Add £17 to above prices for Access+.

Portable Computers

Carriage: a=£2, b=£6, c=£8

Pocket Book II (1Mb)		£315b
Psion	**3a**	**NEW 3c**
1Mb RAM	£290	£320
2Mb RAM	£320	£385

AutoRoute Express UK/Eire **£62a**
- one of the best packages for the PB/3a

A-Link	£59a	PC Serial Link	£60a
Parallel Link	£28a	Mains Adaptor	£18a
128k RAM SSD	£48a	512k RAM SSD	£135a
256k Flash SSD	£53a	512k Flash SSD	£89a
PB/Ps3 Games	£Calla	PBII/Ps3a Games	£38a

Hardware Upgrades

24i16 Card (1Mb)	£450b
FPA for 25MHz ARM3	£67a
iTV TVTuner+TT (1 only)	£100b
Joystick I/F (Not RiscPC)	£30a
Logitech Mouse (Acorn)	£26a
Midi Max Card (CC)	£79b
Movie Magic (1 only)	£250b
Scart Cable (9 or 15 pin)	£12a
Serial Upgrade (A3000)	£27a
25W Speakers (mains)	£35b
80W Speakers (mains)	£40b

Modems (Carriage £8)

14.4 Voice Sportster	£115
33.6 Voice Sportster	£180

Modems come with a 25-25 PC wired cable & 25-9 adaptor which may hinder the printer port. A 9-25 way cables is available at £10 See below. A3k/Archi req. Archi wired cable.

ANT Internet Suite II	£115a
ArcFax	£32a
Dual Serial Card	£104b
9-25 Archi or PC Wired Modem Cable	£12ea.
3-way Serial T-Switch (incl. comm. cable)	£32

Scanners (Carriage £8)

ScanLight Video 256	£215

Epson Colour Scanners, include !TWAIN & ImageMaster for RiscOS. Bundles include CorelPaint & OCR software for PC's/PC Cards.

GTx-5000 Para bundle	£369
GTx-5000 SCSI bundle	£425
GT-5000 SCSI (bare)	£369
GTx-8500 Para bundle	£Call
GT-8500 (bare)	£529
GTx-9500 bundle	£Call
GT-9500 (bare)	£679

Hard Cards/Multi-Pods

See top for other hard discs. Carriage £8

A3010 Hard Disc Multi-Pod

80Mb+User Port	£210
130Mb+User Port	£275
160Mb+User Port	£320

A3000 IDE Hardcards

80Mb + User Port	£170
130Mb + User Port	£210
160Mb + User Port	£255

Printer Consumables

Carriage: £2 for Cartridges, £8 for Toner

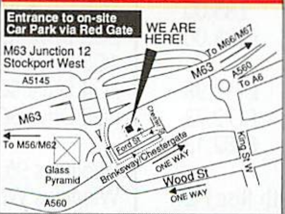
BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
BJ-210 (BC-05)	£28	BJ-300 (BJI-642)	£16
BJC-600 Series		**BJC-4000 Series**	
BJI-201HCbk Black	£10	BCI-21Bk Black	£9
BJI-201bk Black	£6	BCI-21C Colour	£17
BJI-201C/M/Y	£8 ea.	BC-20 Fast Black	£28
BJC-800		**HP DeskJets**	
BJI-643 Black	£18	Mono	£23
BJI-643C/M/Y	£23 ea.	Colour	£25

Epson Stylus Colour	Black £16/Colour £26
Epson Stylus Colour II	Black £20/Colour £26
C3903A Toner (LJ5P)	£64
EP-L Toner (LBP-4/HP LJIII)	£64
HP 92274A Toner (HP LJ4L)	£60
Swift24 Mono/Colour Ribbon	£8/£16

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Where to Find Us



Books (No VAT)

Carriage: a=£2, b=£6, c=£8,

Acorn RISCOS3 PRM's	£99.95c
Acorn Volume 5a PRM	£29.95b
Acorn BBC Basic VI Guide	£19.95b
Acorn RiscPC Tech Ref Manual	£49.95c
ArtWorks Made Easy (Dabs)	£5.00a
Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
RiscOS 3 First Steps (Dabs)	£5.00a
Wimp Programming for All (Beebug)	£10.95a

CD-ROM's (Carriage £2)

CD software for RiscOS

ArtWorks on CD (CC) (Carriage £6)	£110
ClipArt CD 1/2 (CC)	£21 each
Dinosaurs (Microsoft)	£44
Dune II (Eclipse)	£41
Granny's Garden CD	£32
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Hutchinsons Encyclopedia	£20
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Musical Instruments (MS)	£44
My 1st Incred. Amazing Dictionary (DK)	£36
PB Bears Birthday Party	£37
RiscDisc Vol 1 / 2 CD	£17 / £20
Simon the Sorcerer CD	£41
The Way Things Work (DK/IMS)	£44
Ultimate Human Body (DK/IMS)	£44

Applications

Carriage: a=£2, b=£6, c=£8

Acorn C/C++ (Acorn)	£245
Advantage (Longman)	£52a
ANT Internet Suite (ANT)	£115a
ArcFax (David Pilling)	£32a
ArtWorks (CC)	£100b
Card Shop (Clares)	£23a
Chameleon 2 (4Mation)	£39a
Compression (CC)	£34a
DataPower (IOTA)	£105b
DaVinci (Spex)	£Calla
Disc Rescue 2 (Look)	£45a
Easy C++ (Beebug)	£110a
Eureka v3 (Longman)	£110a
FireWorkz Pro (Colton)	£164a
Font Directory2 (Look)	£42a
Font FX (DataStore)	£12a
Hatchback (4Mation)	£38a
HTML Edit 2 (R-Comp)	£44a
ImageFS2 (Alt Publ)	£44a
Image Outliner (IOTA)	£54a
Impression Style / Publisher	£80 / £135b
Impression Graphics Loaders (CC)	£40a
Impression Text Loaders (CC)	£30a
MacFS / MacFS Lite (CC)	£89a / £53a
Ovation Pro **Limited Offer (3 copies)**	£150b
PC Pro (without PCExchange)	£40a
PC Pro (with PCExchange)	£50a
PC Sound Professional (R-Comp)	£25a
Personal Accounts (Apr)	£44a
PhotoDesk Light (Spacetech)	£120b
PhotoDesk2 (Spacetech)	£245b
Prophet (Apricote)	£171a
Resultz (Colton)	£88a
Rhapsody (Clares) v3	£87a
S-Base2 Personal / Developer	£57 / £115c
ShapeFX (Datastore)	£12a
Sibelius Junior	£50
Sibelius 6 / 7	£206b / £950b
Sleuth2 (Beebug)	£110a
SparkFS (Pilling)	£24a
Speech 2! (Superior)	£24a
StrongGuard (ARMClub)	£22a
Studio24 Pro (Pineapple)	£130b
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Web Designers Toolkit (R-Comp)	£27a

Games (Carriage £2)

Alone in the Dark (Krisalis)	£30
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Burn Out (Oregan)	£23
Carnage Inc (4D)	£20
Chocks Compendium	£27
Chuck Rock (Krisalis)	£10
Crystal Maze (Sher)	£28
Cyber Chess (4D)	£27
Darkwood (Eclipse)	£28
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E-Type Compend. (4D)	£20
E-Type 2 (4D)	£27
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Haunted House (4D) 2Mb	£20
Holed Out Compendium	£20
James Pond (Krisalis)	£10
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Play it again Sam 2/3	£22 each
Populous (Krisalis)	£25
Real McCoy 2/3/4	£27 each
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Sally & Wally (Oregan)	£23
Saloon Cars Deluxe (4D)	£27
Scrabble (US Gold)	£24
Sim City 2000 (RPC/A5k)	£34
Simon the Sorcerer 2Mb	£35
Spobbleoid Fantasy (4D)	£28
Starfighter 3000 (Fednet)	£27
Stunt Racer 2000 (4D)	£27
Tanks (Werewolf)	£23
Time Machine (4D)	£20
Virtual Golf (4D) 2Mb	£27
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Early Essentials (over 7), English (6-16yrs), French (8-16yrs), Junior Essentials (5-11), Maths (Number) (6-16), Maths (Algebra) (6-16), Maths (Statistics) (6-16), Spelling (over 9)

Fun School 3 (under 5, 5-7, or over 7)	£19
Fun School 4 (under 5, 5-7, or over 7)	£19
Granny's Garden (floppy) (4M)	£27
Maths Circus (4Mation)	£29
Naughty Stories Volumes 1 or 2	£58 each
Playdays (Gamesware)	£24
Ridiculous Rhymes	£Call
Rosie & Jim - Duck loses its Quack	£10
Rosie & Jim - Jim gets the sneezes	£10

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Acorn Centres of Technology

MAR 97

Heated debate about Hexachrome printing

Commercial colour printing has used the standard Cyan (C), Magenta (M), Yellow (Y) and Key Black (K) colour printing system for decades and computers have become the most efficient way of converting colour imagery, graphics and DTP into separate CMYK components. This information is printed onto the film used to make the aluminium plates for offset lithographic presses.

The main problem with this system is that the number of colours that can be reproduced with CMYK inks on white paper is limited and especially so with blues. Oranges can often slip into brown and solid, deep blues and greens can only be reproduced using extra, colour-matched inks. For instance, the blue of the Barclays Bank logo requires special additional printing with the exact blue ink after the standard CMYK process. Hexachrome, is not four-colour separation, but six-colour including orange and green components which expands the colour gamut considerably, and addresses the problems in reproducing vivid greens, oranges and blues.

In the last few weeks there has been much debate on the newsgroups, especially Argonet, as to the efficacy of developing Hexachrome for the Acorn. The best candidate for Hexachrome would be *Ovation Pro* which at the time of writing is being enhanced with colour separation capability. But is it truly necessary? Only a small minority of publications use five-, six- and even seven-colour separations and this is usually for ultra-high quality reproduction of professional photography. Most commercial colour printers are only equipped with four-colour offset machines and even if you do see a six-colour machine the penultimate press is usually reserved for a spot colour and the last for varnishing. The extra expense involved in this specialised printing is contributed to by the reproduction house that produces the printer's film.

There is enormous expertise to be found in Acorn reprographics bureaux who can produce the quality of film required for good four-colour printing, but this has come from years of experience and hexachrome has not even been written for Acorn DTP packages.

There is a likelihood that print quality could be reduced with hexachrome as the colour curves which have taken years for Acorn repro houses to tune, to suit their imagesetting equipment and printing machinery, would become obsolete.

Only rarely do I see four-colour printing used to its full potential, so with the added expense of hexachrome and the technical problems that inevitably arise with new technologies, many recognise the pitfalls of turning to hexachrome. The Acorn DTP world is anxiously awaiting *Ovation Pro*'s colour separation capabilities and although the importance of five, six, even seven-colour separation is recognised by Acorn software programmers and repro experts, we may be worse off waiting extra months for a system that is years ahead of its time.

Picture of the month

IAN MCKERETH is this month's winner with a boat created solely in *DaVinci*. This fine demo of what can be achieved using *DaVinci* was completed in around 40 hours. This re-affirms *DaVinci 90* as a powerful, easy-to-use base 3D graphics application and it is a shame that the next versions originally expected this year, 180 and 270, have been put on hold for financial reasons.

Ian has certainly taken the package through its paces creating a technically accurate and complex model of this ship. He used *ArchiTech Shapes* utility to create shapes to pinpoint accuracy and all the curved surfaces were made using the *TextoAtec* converter from Aspex. Congratulations on winning the mortgage-shrinking £20 prize.



DaVinci is capable of producing some superb results

Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to augrafix@idg.co.uk.

Sink or swim

Two months ago the Graphics Page featured an article which spoke of the exciting prospective hardware that Pete Bondar was more than alluding to at Acorn World 1996, and the 3D graphics software that could run on it. Some people wrote in expressing their disagreement with my view and predictions of the future of Acorn 3D modelling packages, in the light of the powerful new hardware to come.

It was strongly suggested in a few letters that the magazine has some kind of exclusive deal with Sincronia, the authors of *Top Model*, that the intention of the magazine was to damage the progress of the only other real alternative 3D modelling package, *DaVinci 90* from Aspex and that we published exaggerated and false information regarding the availability of Top Model and its future development.

It has always been my aim as Acorn User's graphics editor to promote and stimulate graphics development on the Acorn platform. Every opportunity has been taken to meet the authors of TopModel and DaVinci, help them combine forces, suggest improvements and express problems with their products.

If official press releases and developers' own words are anything to go by, Top Model 2 is soon to be released, the Pro version is still planned, but sadly, work has ceased on the DaVinci project for the time being. We still do not have a rounded, mature and professionally viable 3D modelling program for the Acorn, but if what we have been promised by Acorn and by Sincronia, is to be accepted in good faith, I still stand by my view that the future versions of TopModel will emerge as the showcase 3D graphics package on the Acorn powered by multiprocessor Risc technology.

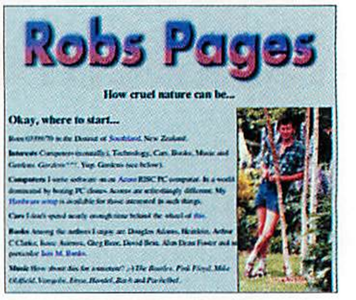
Top Model obviously has its opposition and all eyes are now on Sincronia to produce what they have promised will come very soon. If they fail, the Graphics Page will express our disappointment, but until then we keep our hopes up for Sincronia or any other software house to unveil a profession 3D solution for RISC OS machines.

At home and away on the Web

ONE OF the nice things about the World Wide Web is that on a miserable cold winter day in the UK, with snow-laden skies and temporary tundra underfoot, you can huddle up to your Acorn computer, click on a word and be in a New Zealand summer in seconds.



Tales of the unexpected from Peter Hartley



Rob Davison hard at work on another application

Following the trail of Mark Moxon's recently reported visit to New Zealander Rob Davison, author of *Compo*, *Titler* and the *PCA* specification, we find that Rob's interests include cars, music, books and gardens. He almost apologises for a serious interest in plants, trees and gardening, and looking at the beautiful surroundings in which he grew up, this is neither surprising nor requires apology.

Rob Davison's Web site also offers some of his Freeware copyright software, and one of these is called *!Linker* which be used to produce sequences for the production of animated GIF images so popular on the Web, and in combination with Peter Hartley's *InterGIF*, some really expensive-looking effects can be produced which you can see in an example animation on Rob's site.

For a breath of summer in winter have a look at Rob Davison's Web pages at http://www.GeoCities.Com/SiliconValley/7320.

New Zealand is where Peter Hartley's Aunt Lilian made her *Banana Cake*, and Peter obviously likes it enough to put her recipe on his own Web pages back in frosty Cambridge, England. You can also read his *Homilies*, a selection of ramblings and reminiscences from his own pen, including an episodic if rather technical telling of how he built an Internet server for Iota Software.

'All Rites Reversed - Copy what you like' is Peter's thesis on the status of his Freeware software available from his pages including a new version of *InterGIF*, the animated GIF image generator and *AADraw*, a tool to make Acorn sprites from Draw files for use with *InterGIF*. He says generously that once he's written a piece of code he doesn't want anyone to have to ever write it again.

The Gothic graphics and Peter's dry wit in his writings give the pages a Pratchettian feel which can be found at http://www.ant.co.uk/~peter

YoUR List of Web sights

http://www.dsse.ecs.soton.ac.uk:8080/ftp/freenet/p.temple/
Philip Temple's Acornet Suite - a linked compilation of the best of the FreeWare and Shareware Internet software.

http://www.alphapro.demon.co.uk/
Alpha Programming site with Acorn section run by Marc Warne, featuring AlphaSave, SuperBooter, QuikBoot, Paradox, humour and review sections.

http://www.arm.uk.linux.org/~rmk92/armlinux.html
ARM Linux development site - register interest in a forthcoming CDROM release here, "Mr. ARM Linux" Russell King recommends.

http://www.boutell.com/birthday.cgi
The World Birthday Web - register your birthday and receive a multimedia greeting.

http://www.zynet.co.uk/gold/katech/Welcome.html
Web Site of Cherisha Software, developer of Observess, the expert system shell for the RISC OS Desktop.

www.inter.nl.net/users/J.Kortink/
Creator 3.2 is John Kortink's latest update of his Shareware Image Format Converter, now StrongARM compatible.

http://homepages.enterprise.net/craggleb
Home page of Craig Adam Brown, from which you can see Craig's Risc PC running Mac OS - well not quite, but nearly.

http://www.cyberline.fr/Mirko/
Home page of Vidovic Mirko of Lyons, France, musician extraordinaire and founder of French Acorn club ARMada. Try his Icon vault!

http://www.paston.co.uk/ncs/
Norwich Computer Services new Web page by Matthew Gotts and Anthony Wheeler which has Archive magazine disc contents, words, memory prices and TickerTape Java applet.

http://www.eriol.co.nz/
'Play by Email' Web site of New Zealand company Eriol Games, running PBEM games on Acorn machines.

http://www.colegium.demon.co.uk/
Chris Rutter's home pages, a mine of Acorn-related information including his list of "Recommended Acorn software"

http://www.yellowstone.co.uk/
Yellowstone Educational Solutions home pages.

http://www.varuna.demon.co.uk/tmc/
Tim Tyler's index of Acorn programs, including WWW tools and utilities Texture Garden, HTMLScan and the Zap add-on modules.

Fresco framed?

ANT Fresco© users may have come across Web pages that seem to be blank, but actually contain HTML Frames code which the browser doesn't yet support. Simon Foster's simple Freeware utility *!FrameURL* adds a measure of HTML Frame compatibility to the Fresco Web browser by looking inside the HTML for FRAMESET definitions and opening new Fresco windows for each URL found. Simon's Web site is worth a visit for this and other useful software.

!FrameURL
http://www.stinky.demon.co.uk/downloads/frame.arc

Dynamo Minnie

At last the innovative *Dynamo Minnie BBS* has a 24 hour access phone line and number. David Hart's ArmBBS system is located in Pontefract, near Leeds, Yorkshire, and runs on an ARM3'd A310 with a 14,400bps modem.

Dynamo Minnie features some unusual and clever ANSI graphics and dynamic screen features, as well as the usual file and message areas. David's ANSI graphic art can be seen on a number of other BBSs too, signing as Skooby.

Dynamo Minnie BBS
(01977) 620004

Acorn-friendly

T-J Reproductions offers a full professional print bureau service to Acorn users, and can accept copy in most Acorn formats including *Impression, Ovation, ArtWorks* and *Sibelius*. Services include scanning, imagesetting, litho printing, reprographics and platemaking. The company is based in London and its Web site is on the Acorn Cybervillage site at http://www.cybervillage.co.uk/folio/TJRepro.

E-mail: tj.repro@argonet.co.uk
Tel: 0171-372 4430
Fax: 0171-372 0515

Keep sending me interesting URLs for the next yoUR List by email to david@arcade.demon. co.uk, or mail #2 on Arcade BBS 0181-654 2212.

portables

The story behind the NewsPAD

The NewsPAD, as I explained in my preview last month, has been designed as a possible replacement to our daily newspaper. Looking at the problems with the conventional newspaper you realise that sooner or later a replacement is going to be needed. Today's papers are environmentally unfriendly to produce, create a lot of waste and are only updated whenever a new edition is produced – in most cases once a day!

Newspaper publishers are already realising their time could be coming to an end and most major newspapers now have Web sites which are updated regularly – a solution yes, but perhaps not the ideal one. One person who realised the newspaper industry needed to change was a Spaniard by the name of Joaquim Sans. In 1992 he moved to a Spanish newspaper which was interested in investigating the idea of a multimedia newspaper which would run on a PDA.



In 1994, he managed to build a consortium of companies (including ART, the Spanish newspaper and a Greek software company), sponsored by the EC, which were interested in researching this idea. The NewsPAD project is at heart an experiment to see how the information revolution could be applied to the newspaper industry. ART's role is to design the PDA hardware in which the newspaper is viewed.

Before I talk more about ART's role just think about the advantages of an electronic newspaper system. The obvious one is less waste as there is no newspaper to throw away each day. However, there are other less obvious advantages including the fact that the information could be readily updated (the information would be distributed via radio signals – you would perhaps have to subscribe to a NSP – Newspaper Service Provider(!) to receive your newspapers), news stories could be filtered to suit your interests and needs, while information and adverts could be interactive.

ART has already developed a prototype of the first generation PDA – the NewsPAD. From a technical point of view, this was covered in my preview but to recap, it is basically a very thin touch screen monitor running a slightly modified version of RISC OS. It is designed to run mainly 'read only' applications but has the ability for the user to enter information (essential for *The Times* crossword for example!). The NewsPAD, in order to be effective, needs to be cheap, light, have a reasonable battery life, be relatively hardwearing and easy to use (the aim is to need no instructions) – and these are some of the criteria ART are working towards.

The prototype electronic newspaper that ART is currently demonstrating has been prepared on Macromedia Director. However, in the long run this is going to prove unsuitable as it is very memory hungry and it takes a long time to prepare a newspaper using it. One possible replacement for this is HTML as this is relatively easy to write and not particularly memory hungry.

The current state of affairs is that there is still a long way to go before the newspaper is replaced. At the moment the NewsPAD is undergoing field trials in Barcelona with the hope of attracting financial support in order to take the project further and undertake more extensive trials. But even with the current situation the electronic newspaper is perhaps quite a few years nearer than it was when the project first started in 1994.

Pocket Book games



PSION HAS recently released two classic games for the Pocket Book II – *Scrabble* and *Monopoly*. *Scrabble* is only available on SSD and costs £49.95 whereas *Monopoly* is currently only available on floppy and costs £29.95. Both are very close to their board game counterparts with certain enhancements – for example *Scrabble* has an inbuilt dictionary, the ability to undo moves, hints, on-line help as well as *Rainbow Scrabble* which is the children's edition. Suffice to say both games are very addictive – see the full review in this issue.

Artisan again

SINCE THE last column more details of the Artisan have emerged. One of the more interesting is the rumour on the Internet that the machine is being developed because a rich American business man wants a portable with an operating system that no one else in the States uses and has ordered 150,000 units! Good news for Acorn if this is correct but not perhaps for the business man. If the NC takes off – which I am sure it will – as a lot of people in America could be using a derivative of RISC OS...

The machine will be housed in a case designed by Acorn (unlike previous portables which have been based on other manufacturers' cases) which Peter Bondar promises will be very innovative. The first version, as I said last time, will be based on an ARM7500FE+ with a StrongARM superchip version later.

The high performance versions will possibly have an on-board video conferencing system with the ability to connect directly to a BT phone line. The machine will hopefully weigh less than 3lbs, will have an internal 33K modem and ethernet port and will use a three tier filing system consisting of ROM, Flash and SRAM. Sounds impressive doesn't it?

Psion award

Psion plc has recently won the prestigious award of Major Corporate Exporter of the Year. The award sponsored by Lloyds Bank Commercial Services was presented to Psion after recording export sales in 1995 of £42m – 46 per cent of the company's annual turnover. The company's products are already well established in Europe, the US, Middle East, Africa and Asia Pacific and offices have recently opened in Japan and Singapore.

PCMCIA acronym

During my trip to ART, Ali France told me this wonderful joke which I thought I'd share with you.

Q: What does the acronym PCMCIA stand for?

A: People Can't Memorise Computer Industry Acronyms! (sigh...!)

StrongARM – wow!

My StrongARM arrived on my doorstep early November '96 and it's incredible. ARM 710s now seem slow and ARM 3s unbearable – I think I'm being spoilt. What, however, does this have to do with the portable sector? Well, Peter Bondar said we could look forward to a StrongARM based Artisan which should be an incredibly impressive portable – I personally can't wait...

Portables Web Site

The Acorn User Portables Page Web Site has been up and running for about a month now. The URL is: http://www.wayford.demon.co.uk/AU/home.html – the capital AU is important. The site contains links to Portable related web sites, essential Pocket Book software and much more.

The Millennium Bug

UNLESS YOU are Rip Van Winkle or Sleeping Beauty it cannot have escaped your attention that the end of this century is fast approaching. This has a particular significance for computer users, or should that be for some computer users?

The latest in a long line of computer scares is the so-called Millennium Bug. This relates to the fact that as of midnight 31st December, (my birthday by the way), 1999 computers will cease to function properly as they will not be able to handle the year 2000. This has been well documented in the computing and popular press although with rather more relish in the tabloids. Stories of planes and satellites falling out of the sky and the world's financial markets crashing with dire consequences for all are not uncommon.

The background to the problem is that approximately 25 years ago programs were written for very different computers with limited amounts of base memory. Code was very tight and written in languages like FORTRAN and COBOL or even assembler. To save space, programmers only allowed two digits for year fields in dates. Fine until 1999 but no programmer ever thought that their programs would still be running in 25 years time.

I must express some sympathy as hindsight is always 20/20 and no one else expected their programs to be still running. Less obviously, no one else expected that some computers would have changed so little. The consequence is that some computers cannot cope with 00 as an entry in a two-digit date field – it might be 1900 for example.

My early experience with computers taught me that you cannot rely upon them to work accurately in two areas – arithmetic and time. Computers are bad at counting anything other than simple numbers with accuracy and should never be relied upon to tell the correct time. Your experience may differ but the Millennium Bug tends to lend weight to my experience.

The Bug is, therefore, not a virus in the usual sense but an inherent built-in flaw of the operating system and some software. At this point a warning should be issued – if using a PC or PC card do not set the clock forward to see what will happen. Nothing may happen but stories abound of people who have done this only to see data disappear.

The bug ... is an inherent built-in flaw of the operating system and some software

What are the consequences for those of us with more sense who use Arcs? We have the same two potential problems as PC users – the operating system and the software running on it. One may cope while the other may not; either way you have a potential problem.

Let's deal with the operating system first. If using RISC OS there is no real problem. Just load !Alarm and set the clock for dates far enough into the next century with the confidence that either the computer or yourself will be dead long before the bug becomes a problem, if ever.

So, what about the programs that run on RISC OS? My experience is that few actually rely on the CMOS date but those that do rely heavily on it. Accounts packages tend to be particularly vulnerable but again we are well insulated in the Acorn World. Spreadsheet functions also appear to work without problems on most programs. A simple test is to set the clock into the next century and apply the @now function on a spreadsheet to see if it returns the correct date. I would advise against experimenting with data which is not backed up but that always applies.

If I were Acorn I would also be marketing the fact heavily as a lot of companies reliant on PCs and mainframes are having to pay a high price to have software re-coded to cope with dates after 31st December 1999.

I would like to gather information to compile a list of Millennium compatible RISC OS software. This would be rather like the lists of StrongARM compatible software now appearing. Similarly if you find software which cannot cope with the impending Millennium I would also be interested. Such information should include version numbers. Either e-mail or write to me at the address below. I will compile the information and publish the results in a future issue. Obviously the software should rely upon the date in some way either via its coding or reading the internal date in the computer.

Once again we seem to have less of a problem than those using PCs. Most PC software is not yet Year 2000 compatible. Acorns are not perfect and I am sure we all have long lists of things we wish they could do – but when there is reason to celebrate our choice of computer then we should shout about it.

DataPower delay

FIRST THE good news – Iota Software and Xemplar Education are linking up to provide *DataPower* on all platforms, presumably Macs and PCs. The bad news is that this, once again, means a wait for a relational version of *DataPower*. The cross platform version should have been ready for BETT, January 8-11. The relational version is to follow.

Contact Iota Software Ltd, tel: (01223) 566789, fax: (01223) 566788, e-mail admin@iota.co.uk

The six Ps

I AM SURE we all know that Perfect Planning Prevents Pretty Poor Performance or some variation of it. Planning is the most important and least respected aspect of any project. Of course a computer should be able to help and in the old days, pre-IT, we were taught methods like PERT and CPM. These were used in the planning phase of projects.

Two software tools are available from ACP Ltd called PlanING and ProjectING to help produce visual representations and calculate critical paths. PlanING is a version without the ability to allocate resources to events which is a feature of ProjectING. Demonstration discs and details are available from ACP Ltd, tel: (01256) 58111.

Self promotion

MOST COMPANIES can benefit from a higher profile and this need not require expensive advertising. JETPRINT produce a number of promotional products among them the Design Your Own T-Shirt packs. There is also an excellent Print-A-Clock kit which consists of a mechanism (battery not supplied) and an ink-jet self adhesive kit for designing the face of the clock.

Bearing in mind my comments about computers keeping poor time elsewhere on this page this is the ideal gift for any computer user particularly if it promotes your product.

The JETPRINT catalogue of promotional material is available on request. Tel (01603) 748002 or fax: (01603) 748003.

Mousing

FOR SOME time now I have been using one of the 3M Precise Mousing Surfaces. I was quite prepared to be extremely sceptical at £10 for a mouse mat but I am prepared to say that these really are very good and do improve your ability and comfort when using a mouse although they look and feel strange to start with. Featuring an "advanced microstructured surface which provides unparalleled tracking control and pinpoint mousing accuracy." Exactly – but they are good.

They are available form Norwich Computer Services, tel (01603) 766592, fax (01603) 764011.

Contact

You can contact me, Mike Tomkinson, by post at the usual *Acorn User* address or by dropping me an e-mail at:
aubizniz@idg.co.uk

public domain

Do you C?

The latest version of the popular GNU C++ compiler is now available on the WWW at Acornet. The compiler is now at version 2.72.

Library closedown

Unfortunately, Daniel Hayes is closing his PD library and looking for a buyer. Daniel explains "Due to lack of time, and it must be said, commitment on my behalf, I have decided to put the whole P.D. library up for sale." If you're interest in taking over, please contact Dan at: 1 Standhouse Lane, Aughton, Lancs, L39 5AR or by e-mail to: daniel.hayes@argonet.co.uk

Transmortal patch

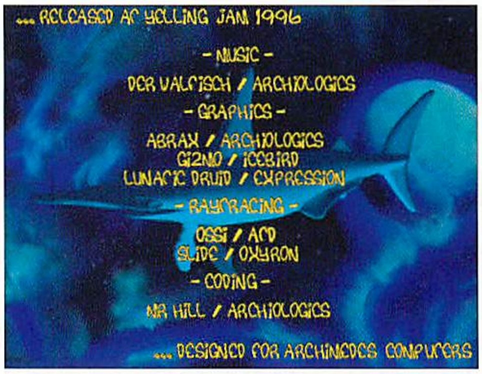
Steven Singer has produced a patch for the old, but still popular, Transmortal demo, by ArcEmpire. Steven's clever bit of coding modifies the demo to run on Risc PC machines but unfortunately has not been tested on the StrongARM yet. The program is available from the excellent Acorn demo web site at: http://sidonie.imag.fr/AcornDemos/ Contact Steven at: sms@np.ph.bham.ac.uk

Databurst denied?

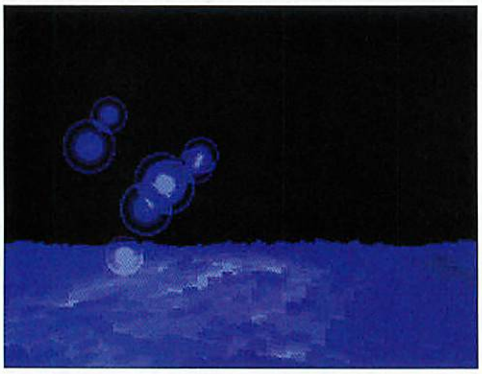
John Stonier, co-editor of the informative BBS related disc magazine is looking for further contributors to produce articles or regular columns for the magazine. Please support John's initiative and help him to keep this excellent magazine going. For more information, see the special area on the Digital Databank BBS on 01707 323531.

Archiologics split

Stop press news reveals that the Archiologics demo group (responsible for the superb Coders Revenge disc mag and the Jojo demo reviewed on these pages) is splitting up. Apparently Mr Hill (coder of Jojo) and Erdgeist are leaving to form a new group. Fortunately, Coders Revenge will continue to be produced. More news next month.







Demo

The winning competition entry in the first Acorn-only demo party has finally been released and, as promised last issue, here's the complete review. Worldwide distribution was held up after the party due to a little mix up but the demo is gradually beginning to filter through on to the net.

Just as the Yelling Jam brought in what is hopefully a new era for the Acorn demo scene, the demo that received the most votes at that party also introduces something of a new age in demo styles. *Jojo* has been put together by five members of the Archiologics and three members of other assorted groups, and the team element has certainly paid off. This is a demo of style. No boring texts. No preaching. No TXP style bragging. Just rapidly progressing unusual effects that have been put together in a really professional way.

Keeping most of the effects and graphics in the same two screen modes keeps mode changing to a minimum and the combination of short effects and fast transitions to link the parts is very effective. Running the demo on a fast Risc PC, it's disappointing to find some of the effects running a little jerkily and using blocky 4 x 4 pixel plotting, but you've got to remember that this demo is written for the ARM250! As the demo says at the beginning "What do you need a cache for?"

The demo starts off by rather ironically mimicking Amiga Dos, and after a short introduction gets straight into the main effects. An ordinary four-colour sprite zoomer is transformed into a cool effect by adding trails to the transformed textures. Difficult to describe in text but very nice to watch.

Next up is a fully shaded and textured system of vector tunnels that the viewpoint flies down. As I mentioned above, the method of using 4 x 4 blocks of pixels (allowing each plotted word to form a pixel, accelerating the plotting code by a large factor) looks a bit blocky, but is necessary to get the effect moving on an ARM250. Under this criteria it's very impressive. The key element to this is the movement of the viewpoint along the tunnel. So often in Acorn demos, the coder works for days on a really nice 3D effect and then completely fails to show it off by moving around the scene in boring straight lines.

After a short transition the next effect has the viewer flying across a voxel landscape. The Xperience produced this effect in a much smoother frame rate in Blu, but here the Archiologics blow that demo away with some really nice presentation. Speeding in curved arcs to the left and right, the viewpoint spins around and a number of transparent lights which look like flared fireflies speed into view. These light the voxel landscape below them making it look very stylish.

Another fast transition leads to a rather disappointing still graphic but it's soon whisked off and a few flashes of the screen, which seem to defy the constraints of the fixed 256 colour palette, lead on to the final effect. This tunnel routine, the most impressive section of the demo, consists of two textured tubes along which the viewpoint flies. The inner tube has transparent gaps in the texturing, allowing you to see through to the outside tube. It's all depth shaded, making the tunnel disappear into blackness in the distance, and the viewpoint spins disconcertingly round and round. Another few flashes, seemingly linked to the music, and the credits picture is warped on to the screen.

The music could have been better, but the dancey sound suits the style of the demo and works reasonably well. All in all a very impressive production that's a must for all collectors out there. Jojo is appropriately available from the stylish Dynamo Minnie BBS on (01977) 620004

or from the Acornet Web site and will no doubt find its way onto the Stuttgart and Acornet ftp servers very soon. It has to be the first demo I know that stops you from deleting it in the desktop and prints up the message "hEy yA' fOol! deLeTin' cOol DeMöz suxx!".

Phonology

Completing the reviews in this demo special is the long awaited set of music discs by the Xperience. *Phonology* is over 2Mb of compressed music, wrapped up in a rather stylish demo interface. The program begins with an impressive and well presented light sourced object which looks like the demo title cast in silver. It's very reminiscent of Frederic Elisei's routines in *MissTech*.

After the intro, the music kicks in and a full screen picture of the titles of the pieces of music entwined together is displayed. If the pointer is moved over one of the names, it gradually brightens to make it stand out. Clicking on the name starts the piece of music playing. Clicking on the centre icon exits via a little transition effect to the end sequence. The demo is then rounded off with a vertical scrolltext giving some information about the music. As usual for TXP, it seems a bit on the arrogant side, but a quick press of the escape key exits you swiftly to the desktop.

special

I was very impressed by the presentation of this production. The H.R. Giger-influenced hand drawn graphics are very nice (although could have used a little anti-aliasing), and it's all been put together in a smooth and stylish manner.

I was a little disappointed with the tunes included. There's nothing intrinsically wrong with the music here, which includes a range of styles centering around a fairly light dance music core. But I have to say that it was all a little bland. Most of the samples seemed a little familiar (do I detect some poaching from the Amiga Desert Dream mods?), and nothing radical had really been done with them. Having said that, the quality of most tracker music on Acorn machines isn't that great, and the Phonology music ironically puts most commercial game music to shame.

Given the particularly stylish presentation I'd certainly recommend obtaining this production, but getting hold of it might not be that easy. At 2.3Mb (quite reasonable given the amount of music), it's a mammoth download, and the Xperience's policy of charging PD libraries £40 for a licence before they can distribute it is effectively ruling out the possibility of buying it on disc.

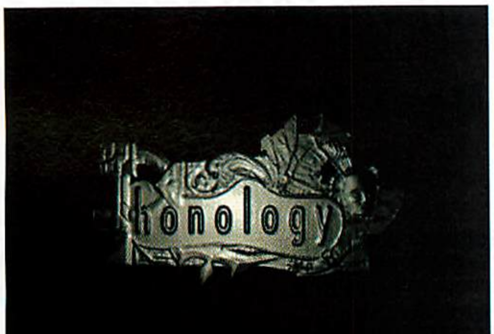
I have to ask myself why TXP are penalising libraries in this manner? The group have done much to keep the demo scene going but strategies like this will make them very little money while limiting the distribution of their software. PD libraries are having a hard enough time as it is, with stiff competition from the Internet. Phonology can be found on the Digital Databank BBS and the Acornet download site on the Web.

SILIconvention 97

Hot on the heels of last year's Yelling Jam is another demo party in Germany. The SILIconvention 97 is multi-format and includes competition categories for Acorn machines as well as the Amiga, Atari, PC and C64.

Prizes will be available for both the best Risc PC demo and the best 64K intro. Full information is provided in the official info textfile which can be found on this month's cover disc. So let's see some UK entries competing with the usual range of German produced demos and show the other formats what the Acorn can do! Expect a full report on these pages soon.







Screen dimmer

Chris Poole has coded up a little module for RISC OS 3.7 users which fades the screen when dimming and undimming in conjunction with the ScreenBlanker. Simply add it to your boot sequence and use *DimTim <secs> to set the dimming time. Contact: c.e.poole@iee.org.uk

Fish Tank upgrade

A StrongARM fixed version of DFI's Fish Tank simulator is now available on the Arcade BBS or at the DFI web site at : http://www.foobar.co.uk/dialin/utopia/dfi.htm

APDL subs again

As with last month, the APDL subs disc has another range of entertaining or useful programs. Two desktop games take the form of Goo, a Pipemania clone and Xor, a conversion of the classic arcade game. Utilities include the essential Texture Garden program (mentioned in the January issue's web design article) and LabelText, a tool that makes processing database CSV files easy. Contact APDL at: 39 Knighton Park Road, Sydenham, London SE26 5RN.

Recommended PD Libraries

- The Datafile, Willoughby House, 89 Woodville Road, Boston PE21 8BB
- Naked PD, 'Fayence', Fulford Rd, Stoke-on-Trent, Staffs ST11 9QT
- Arch Angel PD, PO Box 41, Exeter EX4 3EN APDL, 39 Knighton Park Road, Sydenham, London SE26 5RN
- Five Star Marketing, 4 Shepherds Walk, Bushey, Hertfordshire WD2 1LZ
- Beebware PD, 83 Forrest Road, Huncote, Leicester LE9 3BH
- ARM Club PD Library, Freepost ND6573, London N12 0BR
- Risc World PD, daniel.hayes@argonet.co.uk

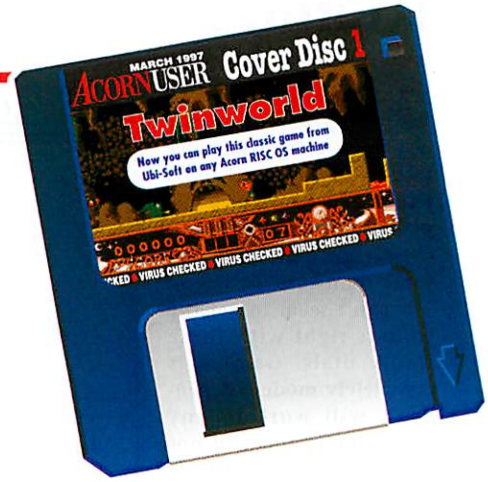
Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk.

Twinworld

James Byrne/Ubi-Soft









The Gaspards, a peaceful race of people, lived for centuries under the wise rule of an old family endowed with magic powers: The Cariken.

This family possessed a secular symbol of power, forged way back in ancient times by the Gods of Enlightenment. Its power was such that peace and prosperity reigned for many centuries. However, the Cariken's vigilance gradually slackened and, because of this, the use of the magical amulet sank into decline.

And thus Maldur, a wicked druid, succeeded in conquering Gaspary, aided by horrific monsters he had created. His warriors massacred the Cariken mercilessly and no one managed to escape or use the amulet. It therefore fell into Maldur's hands, who rapidly realised what hidden powers it contained. Nevertheless legend had it that if a single member of the Cariken survived the massacre and got hold of the amulet, he could then rid the land of the terrible Maldur.

In order to avoid this, the druid tried to destroy the amulet. He concentrated all his magical powers causing an enormous explosion, and under the pressure the amulet shattered into 23 pieces spread across the country. Maldur survived the explosion because of his supernatural powers. Nevertheless, he was seriously injured and sent his monsters to recover the fragments before they fell into someone else's hands.

Maldur did not know there was indeed a survivor, none other than the son of the last ruling king. When he was two years old he had been rescued by Thorax, one of his father's faithful servants, and raised far away from Maldur's spies. On his deathbed, his father made a last wish: when Ulopa reached the age of 16 he should be told about the mission that would subsequently become his unique duty.

On Ulopa's birthday, Thorax told him the story of his ancestors and explained how his true father had died. To vanquish the king's assassins and put an end to the rule of the masters of darkness there was only one solution: Ulopa, the last of the Cariken, must set off to find the 23 pieces of the amulet to get rid of the druid Maldur for good.

Thorax could only tell him one magic trick of the Cariken: the magical control of energy bubbles. Only the consumption of a potion can maintain this magical power.

Thus Thorax gave some of the potion to Ulopa to provide for his long, dangerous journey that would lead him to Maldur's kingdom. The creatures that existed when Ulopa's father was alive had meanwhile been almost completely supplanted by Maldur's terrifying monsters.

System Requirements

For Archimedes series machines 1Mb RAM and RISC OS 2 or later.
For Risc PC series machines 2Mb RAM and RISC OS 3.5 or later.

Controls

If you have a joystick interface connect your joystick to port 1 and begin playing. If not, use the keyboard. To view and/or alter the current key definitions use the SetKeys utility which is available by running the Help file.

• Move right	Joystick right or right key
• Move left	Joystick left or left key
• Jump	Joystick up or up key
• Crouch	Joystick down or down key
• Throw a bubble	Fire button or fire key
• Destroy some floors	Joystick briefly downwards or quickly pressing down key
• Cross doorways	Position yourself in front of the door and move the joy stick very quickly down wards or quickly press the down key
• Lose a life	Escape
• End game	Delete

Help

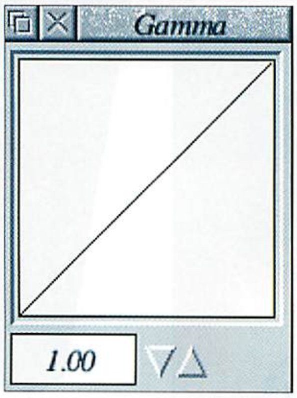
There is comprehensive help available from a StrongHelp file, the !StrongHlp application itself is on the second cover disc in the Extras directory. Please beware this version of StrongHlp does not include the manuals (omitted to save space) and attempting to run !StrongHlp on its own (double-clicking the application icon) will not work. You must select Help from TwinWorld's Filer menu.



!Gamma

David Thomas

Gamma allows you to reprogram your machine's video controller to change the brightness response of your screen display. This can be used to correct for deficiencies in some monitors, or if you just can't seem to get the colours right with those fiddly dials. Gamma is completely mode-independent, will work in any screen mode and will not affect the desktop palette.



Gamma works by altering the colour look-up tables inside your computer's video controller (VIDC) to resemble that of a gamma-curve rather than the usual diagonal line. It should be noted that other programs that try to reprogram the VIDC20 in the same way may not work in conjunction with Gamma.

For Gamma to work, your machine needs to be equipped with a VIDC20 video controller chip or compatible. This currently means any Risc PC or A7000 series machine.

Usage

Load Gamma by double-clicking on its icon in a filer window. It will load and display its icon to the left of the Display Manager utility. Clicking with SELECT or ADJUST on this icon will open the Gamma alteration window. This is the window you use to alter the gamma-curve. At the top of this window is a white box with a black diagonal line in it. Clicking on either of the up or down arrows to the bottom of the window will alter the curve. The up arrow will make the screen brighter while the down arrow will make it darker.

!Toolbar

David Thomas

Toolbar provides a pull-down bar which is used to launch applications, files and open directories. It can be configured to reside on either on the top left- or right-hand side of the screen and stores the names of up to 32 objects.

Load Toolbar by double-clicking on its icon in a filer window. It will load and display its title bar on the top left-hand side of the screen.

The toolbar is initially empty, so you will not be able to drag it down onto the screen. To add an application, directory or file (an *object*) to the toolbar drag it onto the title bar that's visible in the top left-hand part of the screen. It will be added to the toolbar and you will be able to pull the toolbar down to reveal the object you have just added. Each object has a button created for it with a small sprite to the left of the button. Note that the sprite is not part of the button, and clicking on it will have no effect. To launch the object you have added to the toolbar just click Select on the button. Once you click Select, and the object is launched, the toolbar will retract back into its original position. Alternatively, clicking with Adjust will launch the object, but keep the toolbar from retracting.



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- Gamma correction tool
- Pull-down toolbar
- System notes for Twinworld

Regular items

- Bucketloads of *INFO from graphics to games
- Mike Cook's serial port testing software

Disc information

The programs on these discs have been compressed using ArcFS 2 from VTi and are opened by running a copy of ArcFS then double-clicking on the archive to open it. There is a copy of ArcFS on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH. If it verifies successfully return it to the Acorn User editorial office at the usual address.

The Acorn User cover discs have been checked for viruses using Killer version 2.500 from Pineapple Software.

Pssst.... Me Again!
Great news from Alsystems!
Ultra SCSI 3 is here! With a new ultra fast controller chip and other SCSI 3 standards implemented, the new Power-tec SCSI 3 card is all you will need for real power in your computer. No problems for Power-tec SCSI 2 owners either, upgrading is as easy as swapping a chip and running the new Power Manager Software. Orders are being taken now so **call Alsystems today on 01420 561111** for pricing and a release date. If you're on the net, email *scsi3@alsys.demon.co.uk* and they'll email you back with all the techie spec.
PS. Don't tell Sid!

An eye for detail

Jack Kreindler outlines what you need to consider when buying a **flatbed scanner**

There are many ways to capture sights of the real world and convert them into the digital imagery. For flat, still imagery in the form of photographic prints and small-scale artwork, the highest quality digitisation in home and business computing is achieved from flatbed scanners.

For those who don't already know, a flatbed scanner is a little like a miniature photocopier in appearance; a glass-topped box and strip of blindingly bright light harbouring the 'eye' of the scanner that moves beneath the glass. Other types which do a similar but 'cheaper' job are the sheetfeeder type which look like a fax machine, and the 'hand-held' type which often require the power of your arm to help scan the subject matter.

Only in the realm of professional reproduction, where true optical resolutions of over 5000dpi are a must, do flatbeds come second place to 'Drum Scanners', but with improvements in CCD technology the less expensive professional flatbed is becoming a viable alternative. However, with decent models starting at around £200 now, even those with very limited budgets can afford their very own flatbed.

Just like sleeping beds, flowerbeds and even bedsits, there is a great variation in flatbed specification, quality and price. The specification is often what people look for, but with scanners these can contain awfully impressive but quite unimportant and even misleading information. The specification of A4 flatbed scanners usually includes the following:

- **Resolution**: anything from 300 to 9,600 dots per inch (dpi). The salesman will try to convince you that the higher the resolution the better the quality of your scan. The reality is that an unscaled scan of a photograph need not be any higher than 300dpi as file size soon become ludicrous and only a few dye-sublimation printers and off-set lithographers can reproduce photographic imagery at higher resolutions.

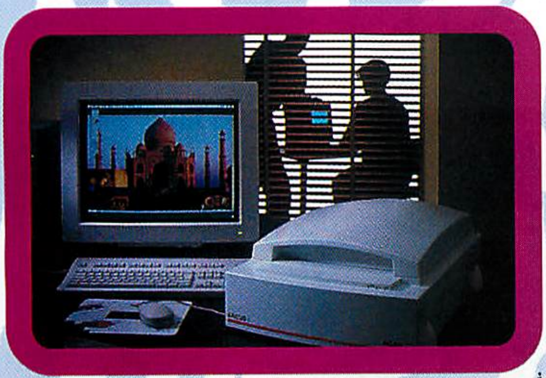
Only for line-art and for scaling up all or parts of the original material do higher resolutions become useful but even then, there are very few flatbeds that can truly 'see' more than 400 points per inch. Higher resolutions are achieved only by interpolation. So beware of the advertising.

- **Number of passes**: A few years ago you had to pay through your teeth for a flatbed that would scan, in one pass, an A4 page in under a minute. Now, with triple CCD, flatbeds are the norm and even the entry-level scanners are single pass. The main improvement over three-



IMC 'Umax' Powerlook II

Agfa Arcus II



pass scanners – which scan red, green and blue separately – is speed while quality remains unaffected.

• **Colours**: In brief, a single pass scanner looks at red green and blue colours each with its own CCD. If the scanner is quoted being 24-bit each CCD should ideally be able to distinguish shades of that colour to 8-bit accuracy. Throw in a bit of maths and you get a figure of 16.7 million colours (88 = 16,777,216). 30-bit scanner can see 10-bits per colour (1010 = lots) and 36-bit scanners can digitise so many billions of colours it seems silly.

It does make little sense having a scanner that can recognise more colours than the computer or the human eye can comprehend, but there is reasoning behind this overkill. For instance, a photographic print that has been poorly developed and lacks any contrast may still contain billions of colours but only a 36-bit scanner many be able to 'see' the tonal variations and expand them to a wider range of contrast, while a 24-bit scanner may see all the shades as the same colour and hence produce an inferior scan.

• **Interface:** Most flatbeds operate via SCSI and parallel hardware interfaces. SCSI is faster than parallel, though at the speed that scanners work, especially at high resolution, this becomes far less important than in data storage. SCSI does cost more but to gain the most out of a fast previewing scanner you may want to spend the extra pennies.

Scanning on the Acorn

This is not as straightforward as on the Mac or PC as manufacturers do not write RISC OS drivers. There are, however, drivers for almost every major player in the flatbed game, for most of which we must thank David Pilling.

David Pilling's Twain Drivers cover all the best of the *Agfa, Canon, HP, Umax, Epson* and *Musteck* ranges. Many of the best Acorn image processing and bitmap editing packages are Twain-ready though Twain is a 'standard' which in reality requires nothing more than that there be a software interface which sits between the destination application and the scanner. It has nothing to do with the scanner's command language itself, so if you buy a new Twain compatible scanner and have one of David Pilling's Twain drivers from ages past, do not be surprised if nothing works.

Each Twain driver is individually written for its scanner. If it was not for David Pilling's work, flatbed scanning on the Acorn would only be possible on a very small choice of hardware, and unlike standard Acorn printer drivers compared to the manufacturers' software, the continually growing number of David Pilling Twain drivers are no slower than the Mac or PC versions. Castle Technologies markets the Musteck drivers and many third parties sell supported hardware with the Twain drivers. Twain drivers are inexpensive at £20 (all inc.) and just £35 with Pilling's *Imagemaster* processing software and both SCSI and parallel scanners can be used with the drivers.

IMC 'Umax Vista' S6E



For alternatives, Iota and Irlam are two to look out for. Irlam have been writing Acorn specific drivers for Epson scanners for many years and their software for the GT-5000, GT-8500 and the range topping GT-9500 tried and tested in the educational, domestic and business environment.

Of course, many Acorn users, from school teachers with networks to home users with Risc PCs have contact with or even ownership of IBM-compatible PCs and increasingly, since the formation of Xemplar, Mac hardware also. Within this cohort there are many potential buyers of flatbed scanners who have other options open to them.

Those with a Risc PC with a PC card second processor can plug a parallel compatible scanner straight into the back of their Acorn and use the manufacturer's software to drive their scanner within Windows. On a StrongARM Risc PC with a fast(ish) PC card and *PC Pro*, scanning is acceptably fast though the parallel port is not as efficient a communications pipeline as it is in RISC OS or a complete PC and there is no Acorn SCSI card that can talk to PC cards yet, so SCSI-only scanners are out.



Devcom 'Black Widow' 9636SP

This problem is being tackled as I write and by the time this issue is published Alsystems, creator of the *Powertec SCSI 2* card, will hopefully be finishing the ANSI driver for its card. This zero-cost firmware upgrade will allow many SCSI flatbeds to be driven via the Acorn podule bus thus solving the parallel port limitations.

With Acorns on PC or Mac networks,

An eye for detail

you may also wish to have your cake and eat it, enjoying the benefits of PC and Mac scanner software and then porting the scan into the RISC OS environment for whatever end. Many Acorn repro bureaux do just that and there are big bonuses to be gained. Some of the software that is bundled with the scanners is quite brilliant and not available for the Acorn, including: OCR, bitmap to vector converters, complete vector graphics packages, photocopier emulators, fax software, cut down or even full versions of the world-renowned *Adobe Photoshop*.

For instance, you can have all the above plus the SCSI version of the Epson GT-5000 for under £400 including VAT while Acorn prices which often include the PC software together with an Acorn driver, are typically £50 more and unless you have a PC you cannot take advantage of the bundled applications. The only disadvantage with this route is memory. RAM, that precious stuff, is quickly eaten up by Windows, especially that version '95', so do not be surprised if your hard disc suddenly becomes thrashed to death by RAM-hungry PC programs passing their excess on to sluggish virtual memory.

What to buy?

It would be easier to squeeze a camel through the hole in the top left corner of a high density floppy disc than for me to list the test results for all the Acorn supported flatbeds. And, in the light of the forthcoming ASPI drivers for Acorn SCSI cards, we are at a turning point for Acorn users with SCSI and PC cards, and with new scanners like the *Xenon illuminated Canoscans* from Canon recently launched with no Acorn driver yet finished, it would be a shame to exclude some of the excellent scanners which currently cannot compete.

Despite the differences in user-interface the difference in raw performance and scan quality is marginal whichever driver or platform you use. Any good computer or consumer magazine roundup could be consulted for specification and performance comparisons. However here are my personal recommendations for the best flatbed scanners on the market. If you have tried a scanner but there is no driver for it yet, I strongly suggest contacting David Pilling who is ever willing to write new Twain drivers given the time and the hardware.

Recommended (street prices ex vat)

£200-£400 (RRP)

• Devcom 'Black Widow' 1200SP (no Acorn driver) 300x600 to 1200, 24-bit
Amazingly cheap for very good quality scans

£400-£700

• Epson GT-5000 (Twain Drivers and Irlam Drivers) 300x600 to 2400 24-bit
A trustworthy and solidly built scanner with a choice of Acorn Drivers

• Epson GT-8500 (Twain Drivers and Irlam Drivers) 400x800 to 3200, 24-bit
Professional results possible from good originals, has high optical resolution

• IMC 'Umax' Vista S6E (Twain driver imminent) 300x600 to 4800, 24 bit
From the award-winning stables of Umax comes another winner. Fast, high quality single pass scanner

• Devcom 'Black Widow' 9636SP (No Acorn Driver) 600x600, 36-bit
Entry level 36-bit scanner. Superior results to 24-bit scanners on poorer original, but much slower than similarly priced 24-bit flatbeds

£700-£1500+

• IMC 'Umax' PowerLook II (Twain Drivers planned) 600x1200 to 9600 36-bit
The big brother of the S6E this is a seriously fast and capable scanner for those with about £1,500 to spare.

• Agfa Arcus II (Twain Drivers) 600x1200 to 2400, 30-bit
At over £2,000 street price, this is an expensive bit of kit but Agfa scanners are famed for the ability to work wonders with poor quality originals AU

Epson GT8500



Devcom 'Black Widow' 1200SP



Contact details

Irlam Instruments:
Tel/Fax: (01895) 811401
E-mail: info@irlam.co.uk

David Pilling (for Twain Drivers)
PO Box 22, Thornton Cleveleys, Blackpool
PY5 ILR
E-mail: info@pilling.demon.co.uk

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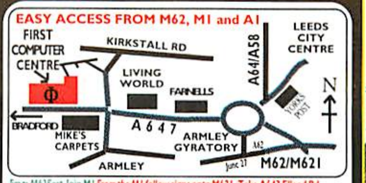
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David Matthewman looks at comments and other miscellaneous HTML fluff in his penultimate tutorial

Passing

I have nearly come to the end of my HTML tutorial and have yet to mention comments. These are normally among the first things to be mentioned in a tutorial for a programming language, but then programmers will insist on writing scary lines full of excessive punctuation that only a computer could understand, whereas in HTML you are usually marking up existing, readable text. Nor is HTML really the programming language – some Web designers like to think it is because it makes their CV look better but real Web designers know that Web programming means Perl, with occasional Java.

HTML comments are simply areas of text in the HTML source that aren't displayed in the browser. I use them mostly as markers; for instance to remind myself 'standard footer starts here', or to date documents. Because browsers don't display comments, they are often used to hide special information or scripts that certain browsers know to look out for; more on that later.

Comments

Comments start with '<!— ' and end with ' —>', and can cover many lines. For instance:

```
<!- Copyright Acorn User 1997 ->
```

or:

```
<!- The following HTML should
  only be changed by Bill, Pat or
  Jon. ->
```

Comments shouldn't be nested. Some browsers (mistakenly) allow this but most will end the comment with the first end of comment marker, leaving the last half of your outer comment visible. The space after the opening <!— and the space before the closing —> are important. It's therefore wrong to write:

```
<!-Short  comment->
```

Remember when you comment your code that although the browser won't display comments, they're still there in the source, and can easily be read by anyone who downloads the page. If you write:

```
<!- ...and if you believe that bit
of marketing twaddle, you'll believe
in the tooth fairy ->
```

someone will read it. Be warned.

There's one slight problem with comments. Some browsers treat a '>' character anywhere in the comment as ending the comment. Such browsers are now rarely used, but if you want to be ultra-careful, don't include a '>' character in your comment. The only real problem with this is that it's then awkward to 'comment out' a section of HTML, because it's almost bound to contain tags with closing angle brackets.

My advice is to go ahead and ignore incompatible browsers in this situation, although it's not advice I'd usually give. The work-arounds are just too awkward and if you're commenting out large chunks of HTML, it's probably on a site 'under construction' anyway.

When writing uncomplicated HTML, the need for comments should be minimal. Unlike programmers, Web designers shouldn't be worried if they never write a single comment. Indeed, HTML that is half comments is needlessly wasteful, since it is wasting half the bandwidth needed to download the file with something that most people are never going to see.

Having said that, if you feel that something in your HTML deserves a comment – or you just want to partition different sections of your source – use comments. It's what they're there for.

DocType headers

Strictly speaking, all HTML documents should start with an SGML command



which asserts which Document Type Definition (DTD) the HTML in your document conforms to. For HTML 2.0, this would be:

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD
HTML 2.0//EN">
```

Very few HTML authors have read the DTD for HTML 2.0, let alone those for HTML 3.2 and the flavour of HTML supported by Netscape. Partly as a result of this, very few HTML pages these days have a DocType header, and of those that do, very few actually conform to the DTD that they claim.

DocType headers can safely be regarded as optional in HTML pages – even if strictly that makes your HTML invalid. By all means include them if you really know what you're doing, but remember that you'll look less illiterate if you leave then out than if you include a DocType header like the one above and then sprinkle **<font color="red">** throughout your HTML.

You'll already have come across DocType headers in Tom Hughes's *HTMLCheck* software mentioned in January's *Acorn User*. *HTMLCheck* relies on them to tell it what syntax to check the document for. If you're going to use them, I recommend to also use *HTMLCheck* to ensure that you're not making vain claims for your HTML.

Random header tags

Up until now in the tutorial, I've largely ignored the tags that can appear in the header of the document, between the **<head>** and **</head>** tag pair. The title goes here, of course, but other tags can appear here. I'll describe them briefly – most aren't important for the novice HTML user and you should consult a book on HTML if really interested in what they do. Like the **<img>** and **
** tags, these tags stand alone and don't

come in an opening and closing pair.

• **<link>**: defines the relationship between the document in which it is used and some other document. In theory, browsers could use this to allow movement between a complex set of interrelated documents. *In theory*. In practice, the **<link>** tag is only just coming into widespread use for style sheets in *Microsoft Internet Explorer* 3.0, but it's there if anyone wants to put the theory into practice.

• **<base>**: gives the base document from which all relative links within the document are to be taken. Normally this would be the document itself, but **<base>** gives a way to change that. It may in principle be used to set other document global properties; frame-aware browsers already use it to set the target frame for any links in the document, but don't worry about that just now.

• **<isindex>**: makes the browser prefix the document with a small text field into which keywords can be typed which will be passed to a script (specified in the **<base>** tag) for processing. The script returns a different page based on the words that are typed. Now that forms have become commonplace, I have *never* seen a page that uses this tag.

• **<meta>**: this is a sort of 'catch all' tag which allows the adding of extra information into the header without those hard-working people at W3C having to invent extra tags. Search engines often check the **<meta>** tag when indexing a site, so to add keywords to a page, use:

```
<meta name="keywords" content =
"key1 key2 etc">
```

As many meta tags can be used as you like in a header. Another common one is:

```
<meta name="title" content="Descrip-
tive title for the page">
```

which will give search engines a more descriptive title to use when listing your page. The first attribute in a **<meta>** tag doesn't have to be **name**, it can also be **http-equiv** which has a slightly different



effect. In this case, it inserts an extra field into the header that the server sends to the browser.

You really didn't need to know that but it's helpful to know that this is used on a number of pages to make the page change to another after a certain period of time. This is done with:

```
<meta http-equiv="refresh"
content=n;
URL="http://www.site.com/page.html">
```

where **n** is the number of seconds to wait before changing the page. Not all browsers support this.

• **<nextid>**: this tag was included in the standard 'for historical reasons' and shouldn't be used. In other words, it seemed like a good idea at the time but when the hangover had worn off and the pink elephants had stopped executing pirouettes on the ceiling, no one could remember what it was meant to do. Still, at least it's not the **<blink>** tag...

Apart from the **<meta>** tag, the use of these is fairly specialised, so I'll leave it up to you to read up on these tags if you feel that you really want to know.

Server side includes

When a server sends a page to a browser, it can process it first. This allows it to pick up any embedded instructions and act upon them – perhaps to include a standard piece of HTML or to insert the current date. The penalty for this is reduced speed, which on a heavily-loaded server can be very bad news, so it is usual to tell the server only to process pages ending with the *.shtml* extension. These pages are otherwise valid HTML pages with Server Side Includes (SSI), or embedded instructions to the server.

These instructions have the following format:

```
<!-#instruction variable="value"->
```

Although this looks like a comment, it isn't. The hash sign # immediately follows the <!— with no space. It's absolutely vital that it does so, or the whole thing will be (correctly) treated as a comment and not acted upon. Getting SSI to work on the server is a matter for you to sort out between you and your service provider; not all will offer every option, for both security and performance reasons. Because they involve a server, SSI pages obviously won't work locally from your hard drive.

A number of instructions are possible.

```
<!-#echo var="DATE_LOCAL"->
```

This inserts the current local date and time in your document. This instruction can echo any of the environment variables which would also be available to a CGI script, plus some extras like LAST_MODIFIED or DOCUMENT_NAME.

```
<!-#include file="file.html"->
```

or:

```
<!-#include virtual="/path/file.
html"->
```

These both include the contents of another HTML file (with a *.shtml* suffix, it could even be another file with SSI). The file variable holds a pathname relative to the current file while the virtual variable holds one relative to the server root directory; the latter is useful for including the same HTML in files at many different directory levels.

You must be careful, though, that any links or images referred to in the included HTML have the correct relative pathnames for the including document - they won't be translated to take account of differences in directory levels. It's often safer to use absolute pathnames in **<img>** and **<a>** tags to be sure.

```
<!-#exec cmd="command"->
```

This will execute a command on the server. This is potentially a very danger-

comment

Passing comment

ous thing to do – if you have this facility enabled and your server processes a file with an embedded:

```
<!-#exec cmd="/bin/rm -rf /"->
```

it's possible to lose a lot of files very quickly. The bottom line is that if your server is allowing you to embed commands using SSI, extreme care should be taken over what goes on your Web site and who can put it there.

Potentially less harmful, but nontheless useful is the ability to execute CGI scripts with:

```
<!—#exec cgi="/cgi-bin/script.cgi"—>
```

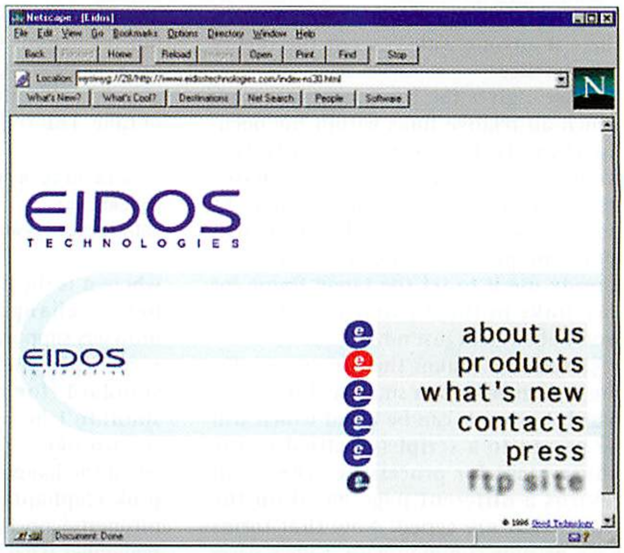
I covered CGI scripts briefly last issue, and if wanting to program them you should read up on them elsewhere. Suffice it to say that they can be used to do a rudimentary access counter, or a random greeting of the day, or a message tailored to a particular user, or any of a number of things. The great advantage of this approach over something like, say, JavaScript is that all the work is done server-side, by server software that you know the capabilities of. You're not relying on the visitor to your site having a particular fancy browser that supports RealActiveQ++™.

Hiding JavaScript

And speaking of things people put in HTML scripts that Acorn browsers can't cope with, comments offer a very simple way of hiding JavaScript, style sheets and other 'enhancements' in a normal HTML document, such that an unwary browser won't see them. For instance, to hide JavaScript, you'd use the syntax:

```
<script language=
"JavaScript">
<!- Dummy comment
JavaScript code goes here
// ->
</script>
```

In a non-JavaScript browser, the script tag is ignored, and everything else looks like it's inside a comment. If the browser does understand JavaScript, it takes the first line to be a single line comment, executes the code and then ignores the commented-out closing comment tag. While I'm not really intending to cover



Practically this whole page is JavaScript, protected from non-JavaScript browsers by comments

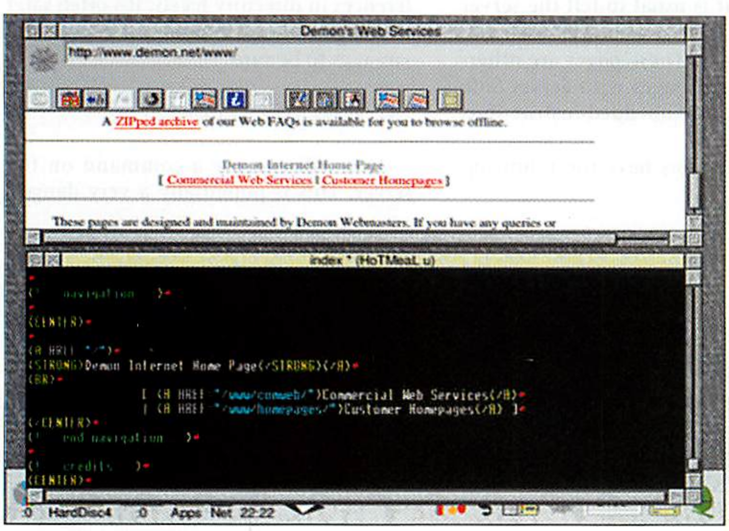
JavaScript (no Acorn browser supports it yet, anyway), it's useful to be aware of this syntax. It crops up in a form like this in a number of places and if you're going to use JavaScript (either by writing your own or copying PD library code) it's best to know how to hide it properly.

Closing thoughts

This issue's column has been a slight ramble through topics that I haven't covered yet, more or less because they needed covering. Next issue will be similar, covering subjects that Acorn RISC OS browsers haven't yet caught up with, like frames and Java (both of which the Acorn NetComputer handles, though). It will also be the last tutorial in the series, although I will probably be writing a few one-off tutorials covering subjects like VRML when they finally make it onto the Acorn platform.

For this reason, I'm completely open to suggestions about any topics that readers would like covered in more detail. If I get enough requests to warrant a one-off, I'll write one – suggestions sent to the editorial address will be forwarded to me.

See you next issue (and thanks for all the votes in the *Acorn User* awards, too; it's good to feel that someone reads the column).



Although comments don't appear in the browser window, they are clearly visible in the source



Making it

Mike Tomkinson puts RaspSoft's new wages package though its paces

I never cease to be amazed at the number of people who consider wages to be a simple subject. It is often set in schools as a GCSE project when, in reality, it is a subject more fitting to A-Level. It sounds simple enough and as we all know anyone with a spreadsheet can set one up to handle wages in a few minutes.

Go ahead and do it now if you don't believe me. You can have 30 minutes, or an hour or six. How did you get on? Was it that easy? National Insurance rates, tax bands, allowances, commission, reporting to the Inland Revenue, printing the wage slips, vehicle rates dependent on engine size and so it goes on.

Even simple wages are not really simple — they are best described as standard. More complex wages are anything but standard. I hope you are now more convinced of the need for dedicated programs capable of handling this complex subject. The one thing that gets most people really annoyed is if their pay is wrong.

At the time of writing, late January, *!HardCash* is in the late stages of beta testing and should be released by the time you are reading this. According to Sid Dine of RaspSoft there will actually be two commercial variants — a Standard version and a Pro version. Obviously the Pro version will have more features and cost more.

On the subject of cost, one of the best features, even in beta test versions, is that the program can be updated by the user. The fact that you are not locked into a system of costly updating is a major advantage — most professional PC products tie you into years of future expense.

This is particularly important in the areas of National Insurance and Tax Rates with their different bands and thresholds. These change, usually following announcements in the budget and the fact that they can be changed by the user means that sending the disc back for updating is not required — simply enter the rates from the National Insurance Book supplied by the Inland Revenue.

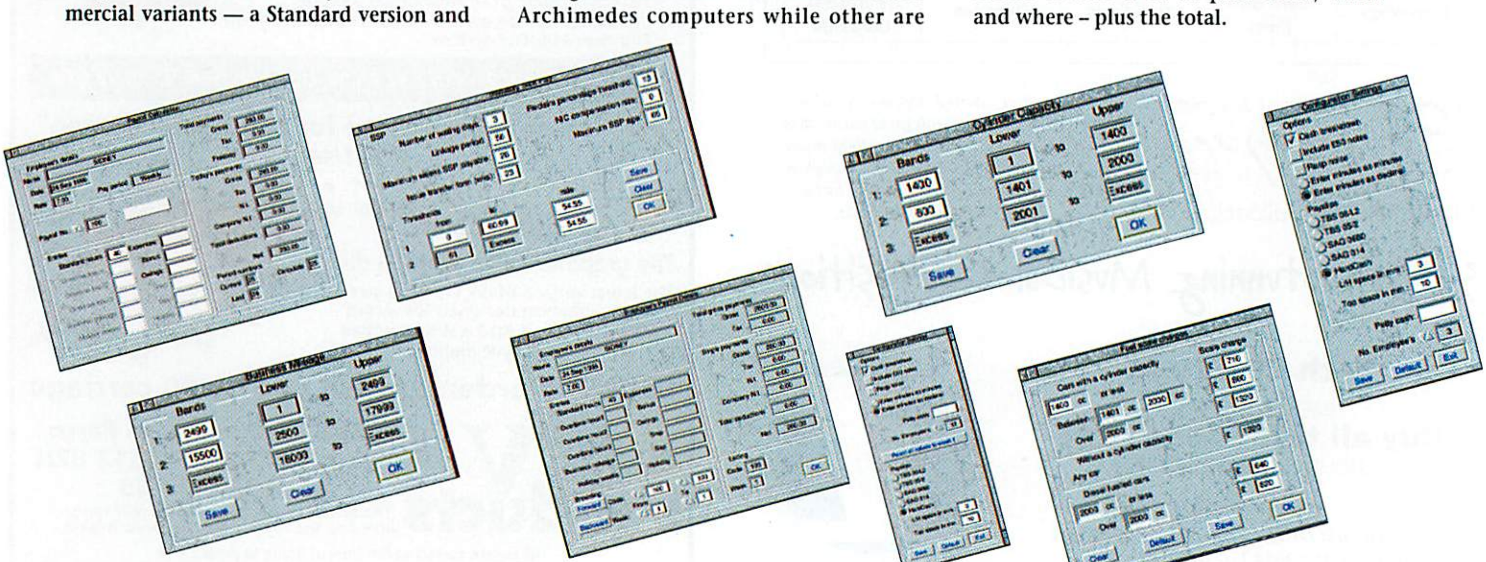
Naturally any change to the actual structure or method of calculation of tax or NI would require updates and this is why a payroll program can never be considered finished. Such updates will be available in the usual way and also as downloads from RaspSoft's Web site.

Acorn systems are now becoming more divergent with some users still on older Archimedes computers while other are running StrongARM-equipped Risc PCs. *!HardCash* is fully !StrongARM compatible and the minimum requirement is any machine running RISC OS 3.1 or greater, 1Mb and a hard disc — it will run from floppy but do you need the heartache? — and a printer.

Output is a very important area of any payroll program. A payslip can be considered to be a simple report but it is also historical in that it usually reports on tax paid to date and cumulative National Insurance paid within a financial year. This is the information along with gross and net pay and taxable pay which is reported at the year end on the P60 form we all receive and promptly forget.

Such information will, however, become vital in the next financial year starting next month when we move towards the system of self-assessment similar to the American tax system. Keeping accurate records will then be even more important than it is now. The financial penalties for not keeping accurate records shift onto the shoulders of the individual fairly and squarely.

An employer also has to send information to the Inland Revenue and deduction certificates (SC60s) fully completed unless using a 714S of course. If payments are made via a bank they will require statements of who is to be paid what, when and where – plus the total.



pay



As you can probably see by now a payroll program stands or falls depending on how good it is at producing accurate reports. *!HardCash* is very good in this area and RaspSoft is currently submitting its forms to the Inland Revenue for final approval.

Clicking Select over the iconbar icon simply produces the dialogue box actually to calculate the wages as set up in the program. The date and week of the financial year are taken from your system, so make sure the date is set correctly on the computer. On another favourite subject of mine, *!HardCash* appears to be Year 2000-friendly and does not to contain the Millennium Bug of so many PCs and PC programs.

Working from the icon bar, initially takes some adjustment as the normal method of using menus within open dialogue boxes on the desktop is not used. The first band of the icon bar menu below Info deals with the setting up of the employee details, the employer and configuration.

Employee details are easily entered but it is here that I have my first gripe as there is, on this version, no import facility perhaps best implemented via a CSV file. It may be that employee details exist on a database and could be imported *en masse*. It is not too difficult for 10 employees but could be a major source of heartbreak for a larger company. Interestingly, there is an export facility, using CSVs, further down the icon bar menu for reporting and so on.

Most adjustments on the employee details screen are via up/down buttons with various fields greying out if they are not required. Displaying these correctly did not work exactly right under RISC OS 3.1 but did under later versions. Apart from the obvious personal and bank details this screen is where NI and Tax code numbers are entered as well the hourly rate. On this version it is assumed that employees are paid at an hourly rate and it should be recognised that this version, being a beta test, would not cope well with salaried personnel.

I put this to the program's authors and they did produce two perfectly adequate workrounds but I would still like to see a situation where one enters an annual salary which the program then divides by the payment period — usually monthly. To their credit the authors agreed that this should be implemented. It just goes to show — if you don't ask you don't get. That is the whole point of beta testing apart from bug finding.

Access to the Car Details screen is available at the bottom of the screen for employees lucky enough to be provided with a company vehicle. This level of detail is required as it's now regarded as a taxable perk by the Inland Revenue and the amount of tax payable depends on such factors as engine size and who pays for the fuel. If you look at this screen on the demo version (on the cover disc) you will get further evidence of why wages are no longer, if they ever were, a simple subject. A single, simple spreadsheet could not do the job and linked spreadsheets with lookup tables and IF..THEN..ELSE statements are not easy to set up.

Employer details are self-explanatory except for the Access code which is a security device to prevent unauthorised access — a nice touch as the more security the better in a situation where both personal details and money are in close proximity on any computer. A word of warning at this stage: any move to computerise a payroll system, especially if it involves a move from a manual system will involve registering under the Data Protection Act as a data user. Be warned, failure to do so may result in a large fine.

System configuration is, again, pretty obvious except for the Rasp noise feature. This has to be tried to be believed and, while it certainly serves no useful purpose, in my experience, it is a unique feature of payroll programs. The review version of the software (Version 1.18) allowed a maximum of 50 employees and minimum of two. RaspSoft has had user feedback indicating that the majority of potential users are involved in companies employing 10 or less people. The Pro version will be able



Making it pay



to cope with an unlimited number of employees - dependent only on the memory of the computer.

The next two bands on the icon bar menu deal with National Insurance and Tax respectively. A very good feature of the National Insurance screens is that they look exactly like the Inland Revenue books and are therefore easy to check. Again a look at how National Insurance is calculated should convince anyone of the need for such software. Vehicle Bands are dealt with in this area and take the information from the Employee Detail screen in working out Fuel Scale Charges and other information relating to company cars. Sick and Maternity Pay are also dealt with in this area.

The program can handle overtime and at different rates and also handle bonus payments but not Profit Related Bonuses upon which National Insurance is payable - but Income Tax is not. It can also not handle Superannuated Pensions but then again most payroll packages struggle in this particular minefield. You usually have to perform the calculation manually and enter the figure into the program. It rather defeats the object of using a computer in the first place. You would have to decide whether this or any other payroll program made the job of wage calculation more difficult or not.

At this point it should be pretty obvious that the beta test version does most of what it sets out to do – you might like to throw some details and figures at it to see how well it copes. You might even like to get it to check with your own payslip if you are in the fortunate enough position to get one. The version I have previewed had a number of minor problems with rounding but let's face it most hardware and software does. These bugs are known and should be squashed by the time you are reading this.

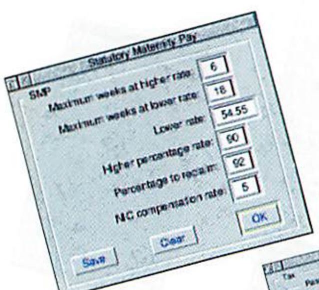
However, a number of areas need addressing before the software can be considered suitable for final release. I have already mentioned my reservations about its ability to handle salaries. Another area is that of deductions other than National Insurance and Income Tax. Some can be handled by *!HardCash* but others, such as union dues, cannot. An amount owing by an employee can, of course, go in the Owings slot. Similarly an employee who earns commission, usually expressed as a percentage of net sales, would not be easily catered for.

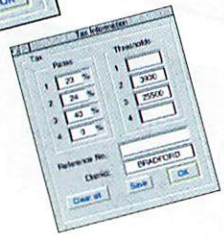
It is fortunate that the authors have approached their coding in a modular fashion. *!HardCash* is a good example of where this approach pays dividends if you will pardon the pun. It should be perfectly possible to write a commission module to add to the program to give it that additional functionality. It would depend greatly on how the commission was calculated and unfortunately, unlike National Insurance, there is no set rule or handy set of tables to consult for this — it varies from employer to employer.

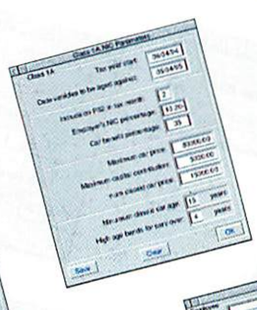
There is an adequate on-line manual with *!HardCash* which should allow competent users to answer most questions. An on-line manual is handy for consulting while actually using the program, perhaps to remind you what goes in a particular area.

With such a program, however, there is no substitute for a good, old-fashioned, printed, paper version of a manual. This should explain everything in simple terms, with plenty of examples and screen shots. It should include examples of all output forms and preferably be indexed. This will be included with final commercial versions and will be of great benefit to users. Again full marks to the program authors — attention to user feedback and detail at this stage of software development are what distinguishes poor software from good software.

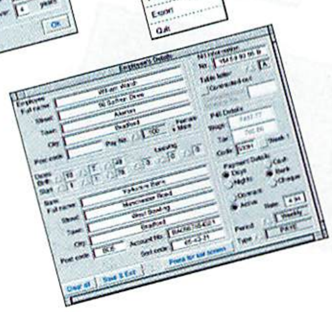
In conclusion, the only real considerations are price — which had not been finally fixed at the time of writing - and whether you need such software. If you handle wages it appears you could do far worse than investing in this package, perhaps to run alongside or complement the excellent *Prophet 3* from Apricote Studios. AU











Product details

Product: !HardCash
Supplier: RaspSoft, RaspSoft Business Centre, 15 Market Street, Wibsey, Bradford BD6 1LR
Tel: (01274) 671922
E-mail: s.dine@argonet.co.uk
Web: http://www.argonet.co.uk/users/s.dine/

Order out of chaos

Rob Miller takes Oregan's StudioSound for a test drive

StudioSound is a single application, designed to play sequences of sound samples in a predetermined order. The program is quite small (about 400K) and comes on one floppy disc. Like its sister program *ProSound*, it is designed in a way to be easily upgradeable, simply by adding new modules inside the main application. StudioSound's SoftDSP system (more of which later) is one area where this technique is used.

On loading StudioSound, you are presented with a small splash box displaying the version number of the program in use, plus the name to which it is registered. After that, StudioSound appears on the icon bar and is ready for use. From here it is possible to create a new project, access the StudioSound library, or view and/or make changes to the program choices.

Now, before I go on, it's worth explaining the way in which StudioSound works. To start off, it uses a kind of *virtual* memory system, where it keeps all the samples on your hard disc (pretty well essential) and displays an on-screen representation of what you are doing.

For example, if you load a sample into StudioSound and then chop it up into parts, the program keeps the original sample intact on the hard disc and then creates a set of pointers to the various starts and ends of the sample sections – it is these that are used to display what is displayed in the StudioSound window.

When you save a project out from StudioSound, you are effectively saving a record of the actions that you have made. This also means that it's easy to undo any changes, even when you load in a project you have created before. It is only when you save out from StudioSound as a sample that the various parts get mixed together in one file. Probably the best way of explaining this is by example so have a look at the panel *Making tracks* if you are still in the dark.

Right, back to the plot ... Clicking on the StudioSound icon on the icon bar creates a new project window into which you load your samples. There are three main parts to the StudioSound window: the time-line (the area where you drop and arrange samples), the toolbar (which contains all the buttons for the various tools you use) and the mixing controls (these affect the way in which the various samples will be played back in the final mix).

The time line is divided up into units of time (hence its name) and can be scrolled left or right to move to different parts of the project. Because locating different positions on the time line can be difficult, particularly if you are working on a long project, StudioSound employs a system of flags that can be dropped anywhere on the timeline to mark a specific point or points. You can just step between any flags you have set until you reach the one you want.

Although this works fine in practice, it would have been even better perhaps, to have nameable flags to make jumping around a large project even easier. It's not an omission mind you (the flag system works fine as it stands), but it would enhance it and would be a useful addition for a future release.

Sound samples

StudioSound will accept virtually all industry samples, including all Acorn ones, plus .WAV, Mascom, Psion, .SOU, .VOC, AIFF and Sun/NeXT. If you have a sample that StudioSound is unsure of, there are a few PD utilities around (such as *!SoundConv*) that will convert them into something recognisable.

Loading samples into StudioSound is as simple as dropping them onto the blank project window at the track and position you require. Moving samples, or parts of samples within and between tracks is also very easy, with a full drag and drop editing system at your disposal.

Getting samples in exactly the right position is essential if you want you finished tune to sound correct. Just one beat slightly out of sync with the rest can make a big difference and fortunately StudioSound has several ways of overcoming this.

First off, you can turn on a special 'grid' on the time-line and then use this grid to position any samples that are out of sync with the rest. Samples are still dragged up (or down) the time line by hand, but the inclusion of the grid improves accuracy. A snap-to option also lets you drag samples along the time-line but in this case they will either lock to a specified position, or to another sample elsewhere on the time-line.

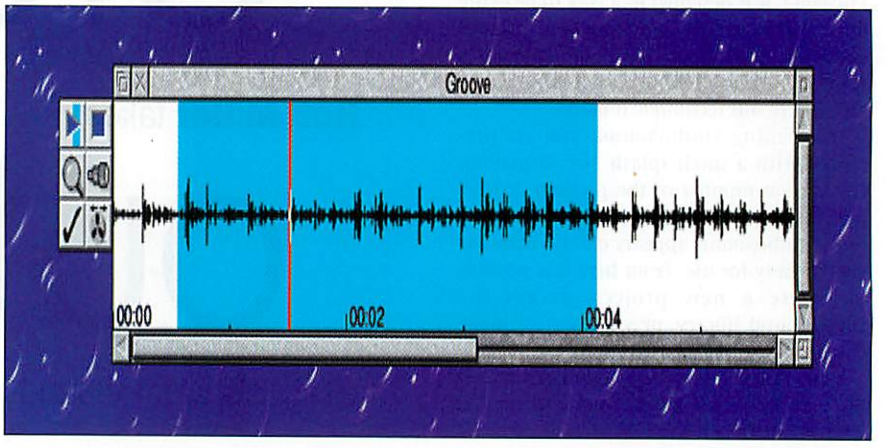
Secondly, you can select a sample or part of a sample and then type in its position on the time line as a value in hours, minutes, seconds and centi-seconds. This is extremely accurate (down to one hundredth of a second) and is ideal for most situations.

Finally, there is the quantizing option, where you get StudioSound to realign the sample (or samples) for you. Quantizing is a special technique used in music sequencers to arrange notes automatically so that they keep to a predetermined beat.

Imagine if you were entering a drum pattern into a sequencer and that your timing on some of the beats was a bit out. By using quantizing, you can get the computer to automatically 'pull' the offending beats back into line, rather than going through them one by one, by hand, and doing it yourself.

All three methods work well giving maximum flexibility over positioning samples. Increasing the zoom factor on the current window also allows you to arrange small samples in a relatively short time span.

Order out of chaos



Chopping up samples

As I've already mentioned, one of the key features of StudioSound is its ability to work on samples of almost any length. If you have a large sample that you want to 'cut up' into smaller pieces, you can do just that, although what StudioSound does is to keep the original sample intact and create pointers to the beginnings and ends of the new bits. This has quite a few advantages in as much as you only need one copy of the sample, even if you want to 'make' multiple sections, or even have sections that overlap each other.

Sound samples can be divided up in several ways. First off, you can double click on a sample that you've dropped into the main window, which then appears in its own sample window. From here, you can select exactly which part of the sample you require by dragging the pointer over it. While there is no 'snap to the timeline' option, you can achieve accurate selection by zooming the window in.

Samples or sample segments can also be chopped up on the time line itself, simply by positioning the cursor where you want the break to occur, and selecting the Split option. This not surprisingly splits the sample into two parts, each with its own amplitude envelope.

Cross fading and envelopes

An essential part of any mixing desk, be it a real one in a professional studio, or a virtual one on a computer, is the ability to fade in and out (ie. increase or decrease the volume) of any track. By fading in one track and fading out another simultaneously, you can achieve what is called a crossfade.

StudioSound employs a system whereby each sample (or sample segment) has its own unique amplitude envelope that controls the volume through a number of stages. All envelopes are switched off by default but can be invoked by selecting the envelope editing tool.

An envelope consists of a single line divided into seven segments, and can be edited with the mouse by dragging the control points that link the segments together. This system works well, although it can be a bit fiddly, especially if you are working at a very high resolution. It is possible to zoom the window horizontally but you are still restricted height-wise.

Perhaps a better solution to this would be to be able to edit the amplitude envelopes on top of an actual sample window. Also, some kind of guide as to what the amplitude actually represents in terms of volume would help when editing the envelopes. Apart from that, the system works fine and does what it's meant to.

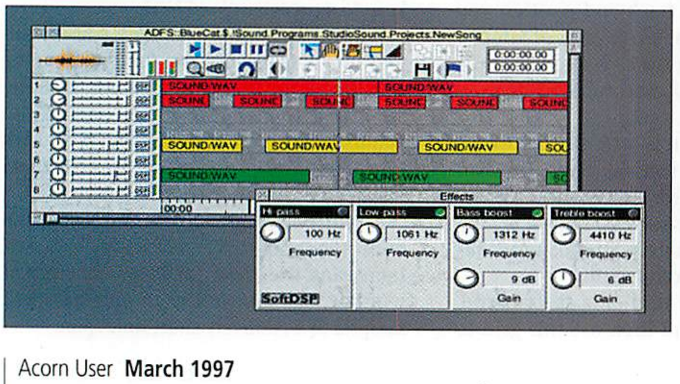
At present, the only use for envelopes is for controlling the amplitude of samples. I would hope (and expect) that Oregan are looking to incorporate envelopes into other parts of StudioSound (ie. stereo positioning, and DSP effects) as this would greatly enhance the program all round.

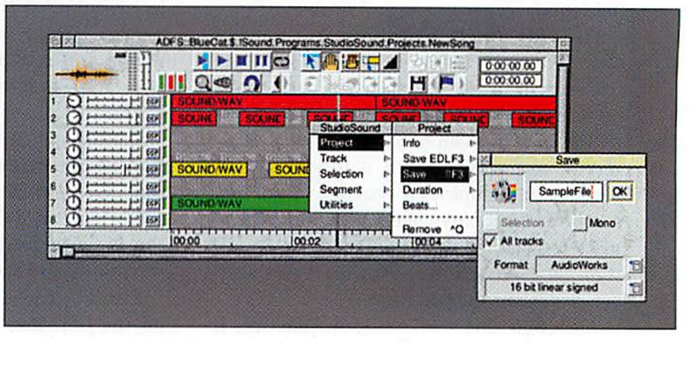
Making Tracks

- Start off by creating a blank project with eight tracks and add in one sample to the first track.
- Next, chop up the sample into pieces and arrange them on the other tracks to form a tune. Note that the original sample is kept intact on the hard disc.
- Set up sound levels and balances, and add any DSP effects that you require for the final mix.
- Save out your finished mix. This effectively records it as a single sound sample onto your hard disc. It's worth noting here that the original file for this project is about 15K whereas the resulting sound sample is approximately 50Mb in length when recorded at 16-bit resolution.

Adding effects

A major part of StudioSound, and the main reason that it is limited to use on top-end machines — the Risc PC — are the DSP, or Digital Signal Processing tools. As well as volume and stereo positioning





properties, each track in StudioSound can have a number of DSP effects applied to it to effect the overall mix.

At present, StudioSound supports high and low pass filters, plus bass boost and treble boost. Each effect can be toggled on or off and innovative dial controls allow you to alter the various settings.

One of the key features of the DSP tools is that they can be applied (and altered) in real time. That is, you can start StudioSound playing a mix and then select and edit any of the DSP settings while this is happening. At present, the DSP effects aren't exactly what you would call exciting, but more are promised in the form of plug-in modules, which should greatly enhance what you can do.

Digital Signal Processing

One of the popular uses for computers, particularly within the scientific and sound related areas is Digital Signal Processing, or DSP for short. DSP, is in effect, taking some data (a sound sample perhaps) and applying an algorithm to every bit of it to alter the data in some way.

Now, depending on what you are doing, DSP can take up a lot of processor time, especially if you are using complex algorithms. This is even more the case if you wish to carry out the DSP in real-time — applying it to a continuous stream of data as it happens.

To get around this problem, dedicated hardware has been developed which is specifically designed for the purpose of DSP. One example of this in the real world are surround-sound amplifiers that can create the sound of different rooms such as Hall, Dome, etc., and these use special DSP hardware for the effects

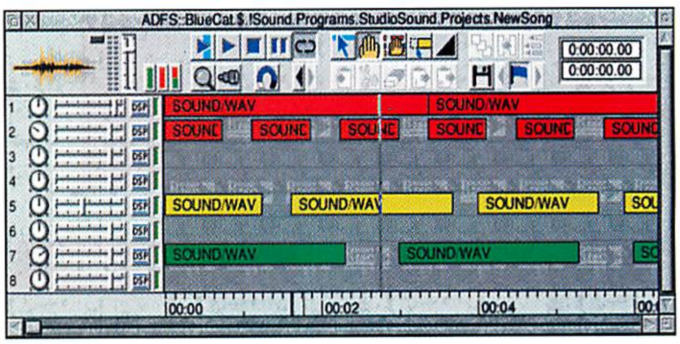
With the introduction of more and more powerful computers — the Risc PC — DSP is now becoming a lot easier to do purely in software, due to the raw power that is now available from such machines. Because StudioSound is a Risc PC-only program, it is possible to make use of the extra power and implement a DSP system purely in software.

Mixing it down

Once you've gathered all your samples together, chopped them up into the pieces required and rearranged them into just the right order, you can finally play them and record them down into one mix. By selecting everything in one go and looping playback, you can keep adjusting the stereo position, volume and DSP effects of any track until you are happy with the result.

When ready to record your masterpiece, all you need do is save out as a file, where after StudioSound will create a new (single) sample on your hard disc, containing the mix that you have just created. This can take some time, especially if you are using 16-bit sound and it's also worth noting that plenty of free disc space is needed to create anything longer than a few seconds.

All the major sound formats are supported including 8 and 16-bit samples, in fact everything that can be loaded into StudioSound can be saved out as well. The resulting sample can in turn be dropped into StudioSound so you can effectively mix a few samples down together and then mix a number of mixes. This technique is known as bouncing and is recommended in the manual as a good way of improving the performance of less capable machines that StudioSound may be running on.



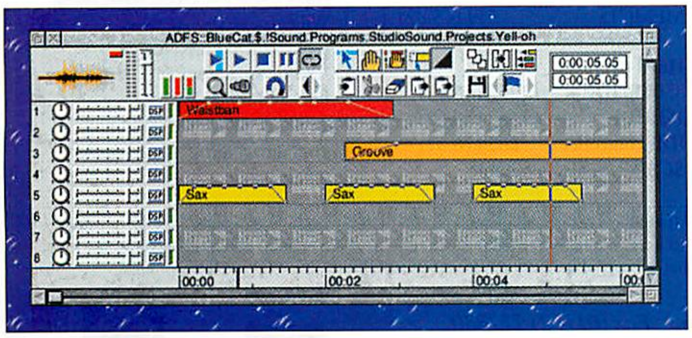
And finally ....

Well, what's the final verdict then. First off it's worth considering whom StudioSound is aimed at. It's great fun to mess around with, although £119.95 is still quite a lot of money for just a toy. On a more serious basis, it could well find a home in a recording studio, especially with the addition of a few more DSP plug-ins.

The sound quality is perfectly good enough for many small scale projects, although dedicated hardware (which incidentally cost a great deal more than the price of StudioSound and Risc PC put together) is still the only real solution for serious work. I could imagine somebody with a small home studio setup using StudioSound for demo mixes and the like.

There is also the MIDI control aspect of StudioSound which means that it should also find favour with anyone that wants to synchronise audio and MIDI events together. Don't forget that it's not just sound events that MIDI can control, so you might, for example, find somebody using StudioSound to control sound effects and lighting for a stage play.

Whatever it is used for, StudioSound is at present, the only kind of program of its type available for the RISC OS platform. It's well designed, easy to use, and does what it's meant to with relative ease. It does have its faults and limitations (most of which I've tried to point out), but with new plug-ins and support from Oregan, it should evolve into one of the best sample sequencers on any platform. AU



Arranging sound samples is just a matter of drag'n'drop

Product Details

Product: StudioSound
Price: £119.95 inc. VAT £59.95 inc. VAT to all registered ProSound owners
Supplier: Oregan Developments, 36 Grosvenor Avenue, Streetly, Sutton Coldfield. B74 3PE
Tel: 0121-353 6044
Fax: 0121-353 6472
Email: support@oregan.demon.co.uk
Web: http://www.oregan.demon.co.uk/

When is a game not a game?

Geoff Preston puts a couple of Psion Pocketbook diversions through their paces

Games are not really my strong suit, but occasionally I come across a program which really is worth commenting upon. *Scrabble* and *Monopoly* have long been a favourite board games of mine and now Psion has finally bought these classic games on to the 3a, 3c and Acorn Pocket Book II range of palmtop computers.

Scrabble

Psion's *Scrabble* may be configured for up to four players which may be in any combination of human or computer players. To be more precise, each of the four computer players may be one of 50 'people' stored in the software.

Each has varying degrees of strategic competence and a vocabulary ranging from 6,500 to 14,000 words. Some of the 'players' are easy for an adult to beat but some will regularly beat top *Scrabble* players. I set the top two computer players against each other and they achieved a combined score of over 900 which is unusually high.

As with all games played on a palmtop computer, the overall playability can be somewhat limited by the size and resolution of the screen and the number of colours it will display.

To try to compensate for this, Psion has offered a variety of board sizes which at least give you the option of seeing the whole board with a little detail, or lots or detail but only a small number of squares of the board visible.

Once the program is installed and run, you must set the preferences and begin the game. Options include nine different game types ranging from practice to timed games. One option, Rainbow, is suitable for 7-year-olds. The game option selected will determine which additional features are available.



If Scrabble can be regarded as educational, Monopoly might be too

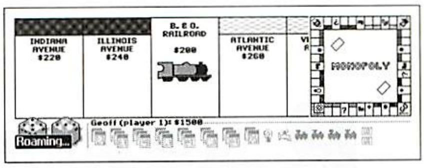
In practice mode for example, there is the option to get the computer to give clues as to the next move. This feature is in itself fully configurable, but by default the hinting is in five stages. The first tells how many letters the best move has, the second gives the score, the third the starting position, then the first letter and finally it will give you the whole word.

Monopoly

If you argue that *Scrabble* is educational, then I feel the same may be true of *Monopoly*. Psion's *Monopoly* is only available on floppy disc and so must be installed from a PC (or Risc PC) via a serial lead. Quite a lot of free space is needed in the computer or SSD to install the full version.

The program can be configured for two to six players of whom any or all can be the computer. The screen shows the square the current player is on followed by the next four squares, or optionally the last square can be replaced with an overview of the whole board.

Other configuration options include collecting fines when in jail, doubling your income for landing on Go as opposed to just passing it and whether unwanted sites are auctioned.



An interesting feature is the option of playing the American version



The display gives all relevant information without being cluttered

One rather interesting feature is that the game can be played in either the English version or the American version with names like Wall Street and Pennsylvania Avenue instead of Pall Mall and Fleet Street.

Deals may be struck up during the game where sites can be swapped with cash adjustment either way. The biggest drawback is the lack of colour which is clearly a limiting feature of the computer.

Having played both *Scrabble* and *Monopoly* a good deal the one piece of advice I can offer is to try to learn as many of the keyboard short-cuts as possible as searching through the menus tends to interrupt the game somewhat.

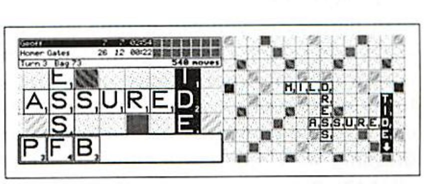
Scrabble, I feel, is slightly over-priced at £49.95. This is available only on SSD unlike *Monopoly* which is only supplied on floppy disc at an amazingly low £29.95. If you want to put both programs onto a single SSD (which you may do for backup purposes), you'll need a 1Mb flash SSD at about £120. *Scrabble* will not run from main memory. AU



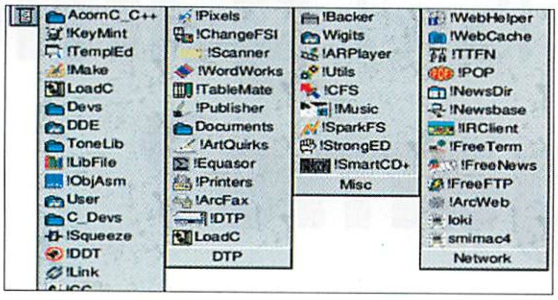
The classic board game – Scrabble now available on the Pocket Book



Up to six players can take part – any or all of which can be the Pocket Book computer



The left and right of the screen can display a board in one of four sizes



Menu bar 2

Barring the menu

Tony Howat explores two very similar work aids

Application launcher utilities have been around for RISC OS for almost as long as it has been available. *Menon* was possibly the first, followed by many other increasingly ingenious methods of starting applications quickly and easily. *Draggie* and *MenuBar* are two commercial programs which operate in the same way as each other. In fact, visually they are almost identical.

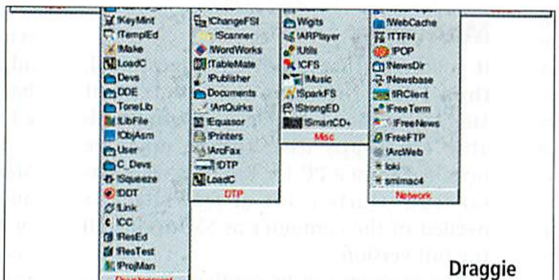
The basic idea is a bar of titles across the top of the desktop. The titles have customised names and new ones can be added as and when required. Each links to a separate pull-down menu that allows you to start the applications, run files and so on, which are in that menu.

Building a menu is relatively simple with both applications: load up the program, add a menu and then drag the files or applications for each menu to the relevant button. From there you can load MenuBar or Draggie on start-up and have all your favourite programs easily accessible from the top of the screen.

In both cases you can double-click an entry, or select and drag. So you can launch multiple applications, open directories or load files by dragging the items down to the iconbar. Double-clicking or dragging with Adjust will close the menu after the operation is complete — convenient and pleasant to use.

MenuBar can save the sprites associated with applications for quick loading and it can also save the system variables. This doesn't work flawlessly but is a useful feature. Draggie will save the sprites but is not selective and opts to save the whole sprite pool.

Now we can get into the differences which are perhaps a bit more crucial. MenuBar allows one set of menus and saves the configuration into itself. Draggie has what it calls *classes* — a class is one set



Draggie

of menus. You can change from one class to another, so different ones can be set up for different users or subjects. It saves a default configuration of menus into a *Choices* directory. If there is a system-wide one (as on RISC OS 3.5 and networks) it saves it there otherwise it will save to itself — useful in a network environment where the application itself may be in a read-only area.

If the screen width is less than the sum of the widths of the menus, MenuBar overlaps them which can look untidy, while Draggie allows you to Control+drag the entire set left and right. On mode change or complete screen redraw MenuBar flips all its menus to the front which can obscure the titlebar of other windows, requiring you to open a menu on MenuBar and put all the windows to the back. Draggie keeps the menus at the back.

Draggie also has the option of having menu names with the date or current free memory as the title. MenuBar provides an adequate clock display when the main icon is clicked using Adjust but this isn't as convenient as a clock on the bar itself.

Draggie takes about 180K of memory when running, while MenuBar uses 68K through use of overlays. MenuBar's documentation is clear and well organised but Draggie's manual could be better. While researching this article I also found *ExtraBar*, a public domain program by David McCormack, which seems more flexible but is much more difficult to set up.

MenuBar is perhaps a bit more polished than Draggie. It has been around longer, but Draggie has some better features. AU

Contact details

Product: Draggie
Price: £12
Supplier: The Really Good Software Company, 39 Carisbrooke Road, Harpenden, Herts AL5 5QS
Tel/fax: (01582) 761395

Product: MenuBar
Price: £15
Supplier: Crow Associates, Manor Lodge, Llangattock, Monmouth, Gwent NP5 4NG
Tel/fax: (01600) 772532

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I wrote that

Mark Moxon caught up with Paul LeBeau, the author of the original Acorn web site

Remember the first Acorn World Wide Web site, before it got replaced by the current corporate monster with its stark, minimalist business-like approach? The original site, with the cosy little Acorn village? I sure do: I remember being pretty impressed by the whole thing.

'People had been moaning about the lack of an Acorn web site for ages,' says Paul LeBeau, the person behind the design and implementation of the Acorn site. 'Then when Acorn finally unveiled their site, people were pleasantly surprised, I think. The response was favourable, anyway.'

The response certainly was favourable. The site was based around a bit picture of an Acorn village, with buildings for each of the areas on the site, such as the University, the School, the Newspaper, the Airport, the Town Square and so on, and it looked really professional. 'Well worth the wait' was the verdict.

World wide design

What might be slightly surprising to those who don't know is that Paul designed the whole site from the other side of the world in Christchurch, New Zealand. Of course, with the Internet spanning the globe, it's more than possible to telecommute and in fact Paul got to hear of the project through the Internet in the first place.

'Acorn had put in place a really tiny web site that basically said: "We're working on this", and had sent a message to the newsgroups, asking for people to offer their designing skills for a real Acorn site,' says Paul. 'I whipped up a quick *Draw* file of three or four buildings in a village and sent it off to Acorn in late 1993 and in January 1994 they came back to me and said they liked the idea and would I like to design the site. It all went from there.'

Designing a web site is challenging – well, it's challenging if you're going to do a good job, something that is quite obvious when you see some of the dire home pages dotted around the world – but it's even more challenging when you don't know any HTML. This didn't bother Paul, though, who had already done a considerable amount of programming before, helping to write packages like *Poster*, *smArt*, *Noot* and *Chameleon* for 4Mation.

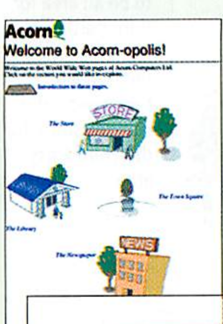
'I didn't know any HTML when I started, so there was a learning curve,' says Paul, 'but it's a really easy language – at least it was when I was doing the Acorn web site. It's a bit more complicated now, with tables and so on, but I just read the HTML document and looked at other web sites that I liked around the Internet and we eventually went on-line in May 1994.'

Draw, Paint and Edit

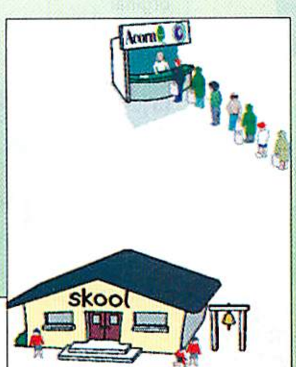
One of the most impressive parts of the original Acorn site were the little graphics, that made it stick out from the text-heavy and tackily-designed sites that still clog up the Web. When I first saw the pictures I assumed that Acorn had employed a professional graphic artist with some powerful piece of cartoon-drawing software, but the truth is far more down to earth.

'I used *Draw* for all the graphics,' says Paul, 'and nothing else, except for a little colouring with *Chameleon*. I'd do the graphics in *Draw*, then grab them with *Paint* in a 256-colour mode, zoomed to double size, and then scale them down in

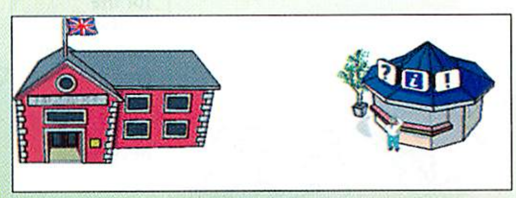
The original site – a gallery



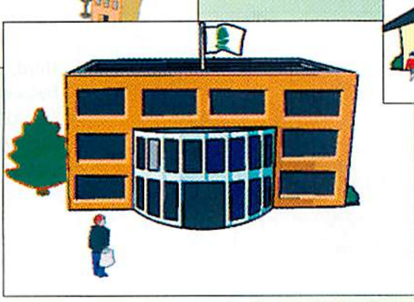
Paul's first Draw mock-up, which he sent to Acorn in response to their request for designers



The original design for the School and the Clan queue



The Museum, which was later changed to the University



Acorn House, drawn from pictures and Pauls memory of his visit to Cambridge



The town airport, where you could access Acorn's overseas subsidiaries

I wrote **that**

ChangeFSI so they were anti-aliased. I'd then convert the sprites to GIFs with *Creator*, unless I needed a transparent GIF, in which case I used a rough-and-ready conversion program I'd converted from another platform. Because I used *Draw*, this meant there were lots of blocks of pixels all of the same colour, so the sprites compressed down really well, something that wouldn't have happened with photos.

'The HTML sources were all written in *Edit*, despite the presence of a few HTML editors: I've never really felt comfortable with HTML editors, *Edit* allows you to do exactly what you want and really easily.'

The actual design of the site was also down to Paul, who would work on the site and, every few weeks, compress it with Spark, ftp it to Acorn, and await the comments. There were a few issues that needed resolving every now and then but it went surprisingly smoothly.

'There were some discussions that cropped up between Acorn and myself,' says Paul, 'but nothing too strenuous. I was putting the site together just as Acorn split up into a number of companies, so there were issues about how that was going to be handled: for example, when I came to design the signpost showing all the different companies in the Acorn group, we had to decide which company went where on the signs.

'Then there was a bit of concern over my design for the Clan stand in the village, which showed a little stand with a queue of people, lots of whom were wearing anoraks. Some people thought that was a little cruel, but Chris Cox, the head of the Clan, thought it was fine so we stuck with it. Then there were little things

I whipped up a quick *Draw* file of three or four buildings in a village and sent it off to Acorn

like changing the spelling of "School" from my original "Skool", and the idea of a Museum, where I was going to put all the stuff relating to Beebs, Electrons and so on: the Museum design changed to the University soon, though, as Acorn didn't like the Museum concept.'

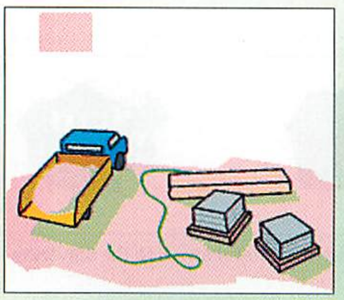
New Acorn web site

Paul was the webmaster for Acorn for about a year in total, after which Acorn decided to employ someone who could work in the UK offices – Paul rather gladly handed over the reins.

'It required a lot more effort than I thought it would,' says Paul, referring not just to designing the site in the first place but keeping it running. 'I was quite glad to hand it over in the end as there were lots of things that Acorn still wanted doing. For example, they were beginning to convert all the Applications Notes and Customer Hotlines into HTML which was quite a task, and I had other projects on the boil.'

Paul still does a bit of web designing – he's responsible for Cave Rock Software's web site, the company that Paul works for in New Zealand – and he's still creating whole sites. The hard work involved in doing Acorn's site obviously hasn't put him off.

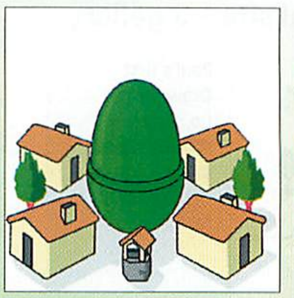
The Acorn web site that you see today has a number of graphics and page contents from the original site but the Acorn village has gone, along with its pretty little buildings and colourful graphics. Perhaps it reflects Acorn's new corporate image more accurately but I still miss the Acorn village. Perhaps the original site should be preserved somewhere for posterity: in the Museum, perhaps? AU



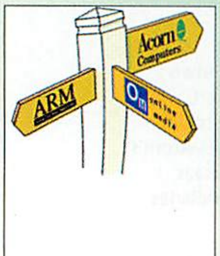
The picture for the 'under construction' area of the village, which was never used



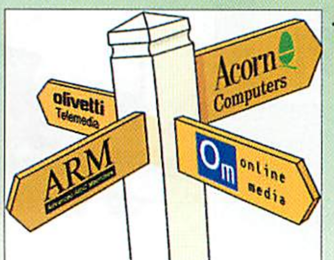
The orginal comment icon, later changed to just the pen



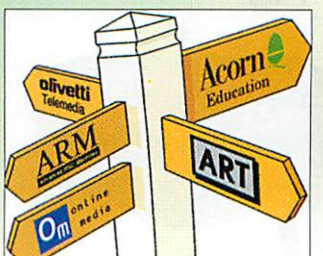
There was going to be an area for third parties on the Acorn site but it never happened – this was the sprite for the Third Party area



The first sign post...



...and the second...



...and the third, before the ART logo was designed

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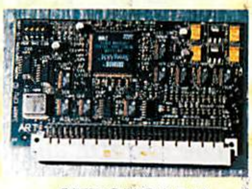
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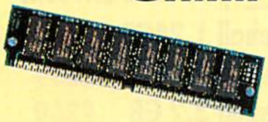
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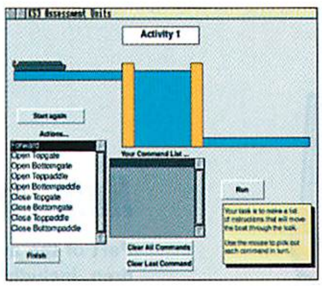
SCAA Assessment Software

AT THE end of this school year IT teachers will be completing the statutory end of Key Stage assessment for all 14-year-olds (Year 9). The long-awaited assessment software from SCAA (Secondary Curriculum and Assessment Authority) is now being shipped to schools who requested copies in December.

The software is free and is intended to help IT coordinators assess students' level in IT at the end of Key Stage 3 but is not to be regarded as necessarily conclusive. *Optional Tests and Tasks* is supplied on two discs which contain a total of five programs covering data handling, modelling and control, together with teacher's notes presented, rather curiously, as bit-mapped pictures.

All the programs have a similar structure: enter your name and tutor group, follow through the tutorial and move on to complete the exercises. Finally, print out the results which show how well you did (or didn't do).

History has two activities which are unsuprisingly history related. Both involve the use of a database and students are asked questions which require the database to be searched for the answer. The first is a simple search usually asking for the meaning of a word, while the second activity is a more involved task requiring users to decide the most appropriate fieldnames and data types for a database about archeological finds.



Superb graphics, but not always easy to locate the piece you want

Leisure is another data handling activity but this time the appropriate key field for the search must be chosen. Having read the question, users must initiate a search of the database and enter the number of records found.

Lock is almost identical to a program written several years ago for the BBC B in which users must control the lock gates and move a boat down the river. This time the instructions are selected from a list to create a program which is then run. A more advanced activity requires understanding and feedback.

Pond is a computer model of a small pond which the student uses to test a suggestion about plants and animals living together. Once again there are two activities.

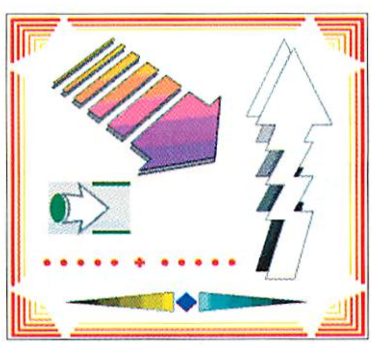
Routes displays a map which the pupil must use to calculate such things as the number of different routes between two places and the distance between them.

At the end of each activity the pupil may print out the results which gives a great deal of detail including the time taken on each exercise. There is no way of saving the results so a printer must be on line if a permanent record is required.

SCAA, tel: 0171-229 1234

Publish Art

I FREQUENTLY receive discs containing so-called clip-art which, all too often, is rubbish — sorry, but it's the only way to describe it. Occasionally I get a disc which is different in that it contains quality material which looks as if it might be useful to someone. *Publish Art* by Smart DTP is a CD-ROM filled with details and highlights intended to enhance a DTP document.



In fact, everything on the disc appears twice: once in *Draw* format and one in *ArtWorks* format. The quality is quite superb but what lets this disc down is the lack of any method of searching out the clip you want. Similar discs have included a reference book or the ability to locate the images using the software. Publish Art has neither so every double click is a surprise.

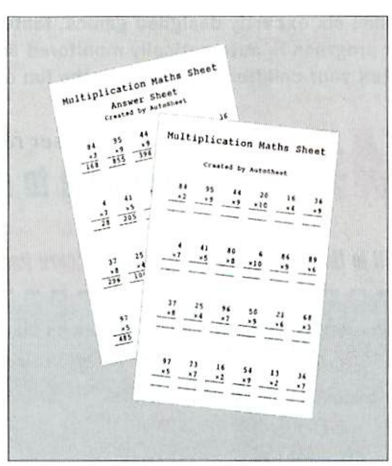
Publish Art is available from Smart DTP who may be contacted on (01332) 842803.

AutoSheet

ONE ON-GOING task for all teachers seems to be the production of useful worksheets for pupils to work through. This is potentially time-consuming but for teachers of primary and lower secondary Mathematics there is an alternative. Alisdair McDiarmid's *AutoSheet* will produce both question and answer sheets of up to 36 sums per page in a choice of layout styles.

Each sheet may contain either addition, subtraction, multiplication or division sums, or nine magic squares. Sheets may be either printed directly from the software or saved in *Draw* format enabling them to be customised by hand. Options include specifying the style of sum (long division, in line) and additional missing numbers. Although you may specify the magnitude of numbers, there doesn't seem to be an option for selecting say, only numbers divisible by 4. This, I'm told, is one of the features 'pencilled in' for future upgrades.

AutoSheet costs £15 for single copies or £30 for a site licence from 2 Cedar Drive, Milton of Campsie, Glasgow G65 8AY or e-mail: a.mcdiarmid@zetnet.co.uk

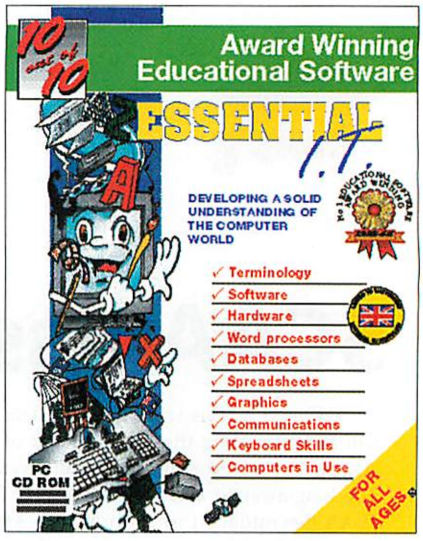


Generate KS1/2 Maths worksheets with this neat little program which costs just £15

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: aueduc@idg.co.uk

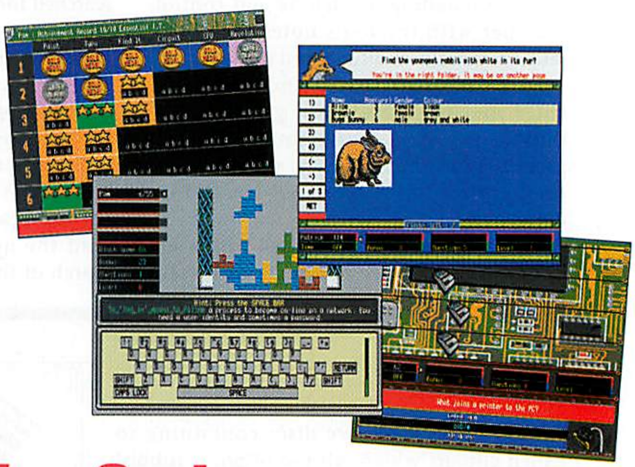
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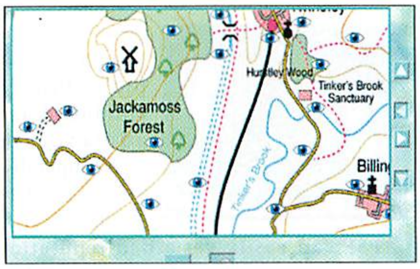
Dream on, Mike

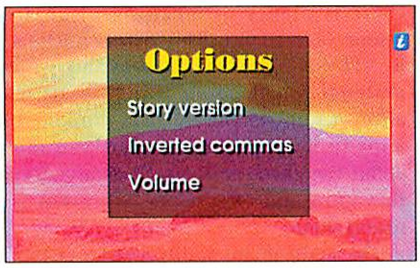
Geoff Preston keeps his feet firmly on the ground while reviewing Rusty Dreamer from Sherston

Rusty Dreamer is Mike Matson's first major project since leaving 4Mation to join Sherston. Although published by Sherston, the main part of the package is very much Mike Matson's 'baby'. He wrote the story and produced all the graphics and animations. The story will be appropriate for most children between 8 and 12 years of age with presentation to match.

In addition to the CD itself, the box is crammed tight with an instruction manual and additional teaching material in the form of a book of educational ideas, some worksheets and a map. The map is a colour print of the area where Rusty lives and can be accessed at any time while running the CD.

The A4 worksheets are in sets of three covering, among other topics, talking, creative writing and proofreading. Each sheet refers to a specific chapter and should be used while reading the book rather than after. These sheets have been carefully designed to link to the National Curriculum and are not just padding.





Using the software

Rusty Dreamer is a triple format CD-ROM for Acorn, PC and Apple computers. Installing on an Acorn requires dragging a file into a filer window where preferences are kept, including saving the place so you can return to it. Clicking on this file starts the program.

After the introduction you are taken to an options page to make various choices about the use of the program. The bulk of the material is in the form of a talking book, but a talking book with a difference. There is a choice of three different reading levels, each having a long and a short version. In total there are six variations of the story ranging from 2,500 to 24,700 words with a vocabulary of between 500 and 3,000 words. This makes Rusty Dreamer suitable for all of Key Stage 2 and lower Key Stage 3 pupils. Each page can be read either by the user or by the computer.

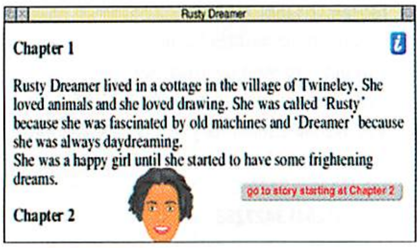
Each chapter is also available as a summary which can be either narrated or read. The idea here is that part of the story can be read in brief before reading the remainder of the chapters in full. On each screen of the story is a map icon which leads to the on screen map. Here are found the various locations mentioned in the story and clicking on one of the eye icons will display a photograph of that location. Also on the disc are the six variations of the story and the six vocabulary lists as text files. These could be used in a variety of ways including printing out to produce traditional books.

The program is typical of Mike Matson's work: sometimes surreal, always fascinating. There are numerous animations, many of which are a mixture of hand drawings and digitised video pictures. The story is by Mike Matson and professionally narrated by Marion Naidoo. It is about Samantha Reynolds, a young girl nicknamed Rusty by her parents because of her love of old machinery. She also spends a great deal of time daydreaming.

Other options include the different ways in which spoken text is printed: standard font or italicised and single or double quotes.







Paper plane

Integral to the story is the production of a paper plane and instructions for this are included in the program. These are in the form of a step-by-step guide illustrated with some very clever animations showing the paper folding.

CD-ROMs are notoriously difficult to review because they contain so much information. Almost as soon as pen goes to paper, the reviewer must begin making decisions about what to omit so that the final script is not so brief as to be useless yet does not fill half the magazine.

Rusty Dreamer has been a long time in coming partly because of Mike's renowned insistence on high quality work and partly because Sherston was developing its own in-house development software to help create further programs of this type. It's been worth the wait – *well* worth it. I suggest this is the first program of its type (certainly on the Acorn platform – and I can think of only a couple of similar offerings on other platforms, although nowhere near this quality). Now Sherston has its own in-house development software, I would like to see a great deal more software of this type but aimed at a higher level. AU

Product details

Product: Rusty Dreamer
Price: £49.95 ex VAT
Supplier: Sherston Software
Address: Angel House, Sherston, Malmesbury, Wilts, SN16 0LH
Tel: (01666) 840433
Fax: (01666) 840048
E-mail: info@sherston.co.uk

Round again

After a long lay-off, **Geoff Preston** looks at some of the best of the latest CD-ROMs

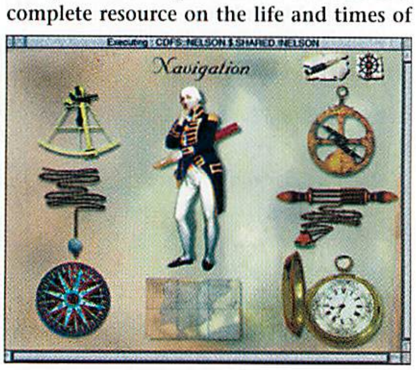
Interactive multimedia material is coming on in leaps and bounds. Early examples were good by the standards of the day, but compared with some of the latest products they now look decidedly amateurish. The latest batch of CD-ROMs are highly polished productions with some of the best offerings coming from two companies whose roots are in television production: Yorkshire International Thompson Multimedia (YITM) and Anglia Multimedia.

It's not difficult to see the television influence, especially with Anglia's products. The clever use of visual effects and fancy tricks we see on our TV screens daily and now more or less take for granted, are strongly in evidence here. My only criticism with many interactive programs is that I would like to see a little more text to take each of the topics just a little deeper. That criticism could probably be levelled at 80 per cent of the current CD-ROM based products, although not, I think, any of these.

The cost is also falling rapidly. CD-ROMs which a couple of years ago would have cost £120+ are now half that price. Not bad going – twice the quality for half the price. How times change in this business.

Nelson and his Navy

Although this is not a new product, I'm including it simply because I haven't had the chance to review it before and it's just too good not to get a mention. This is a complete resource on the life and times of Nelson, his ships and his battles. I can't imagine that anything has been left out.



The title page contains several hotspots which lead to various sections including navigation and life on board ship. It really must have been difficult on board at the best of times but this disc takes the user right into the heart of a battle in the way that no book can. The drawings and photographs are very clear and the narrated text is excellent.

Survival's Mysteries of Nature



Anglia Television is well known for the high standard of its Survival television programmes and this multimedia CD-ROM is virtually a television programme on disc. It's divided into three main sections – Senses, Hunter and Hunted, and Flight. Within each of the categories are a number of creatures which demonstrate various skills within that category.

Each animal is described with some clear text which can be read aloud by the computer and illustrated with some of the best films I ever seen on a computer screen. I've rarely been impressed with Replay films, most being of mediocre quality, but these are all very clear and typical is the clip of an archer fish using a jet of water to knock an insect off an overhanging branch. All the detail can be seen very clearly.

If you do nothing, this program will run itself which is an interesting feature although it makes my job as a reviewer a little harder as I can't have it running while I'm trying to write the review!

Each item is described in varying amounts of detail and can be accessed in several ways including an alphabetical list. The accompanying graphics are either still or a video sequence. Overall, a thoroughly enjoyable trip into some of the mysteries of nature.

Growing Up Together

More and more there seems to be a need to deliver personal and social education to today's children. Indeed some teachers believe this is potentially one of the most important subjects on the curriculum as it aims to guide our young people through childhood and adolescence into (hopefully) responsible adults.



PSE can easily get a bad reputation among both staff and students unless there is plenty of meaningful quality resources available. This two CD-ROM set by YITM is full of sound ideas and quality material to get pupils thinking. (It will also get some of the teachers thinking.) It aims to help children understand more about the changes they will experience as they grow and some of the issues that surround them.

The main menu is displayed as a block of flats with each occupant providing a theme. Clicking the mouse over the appropriate door selects the topic which are presented as case studies. Each case study includes a video sequence introducing the occupant and raises the themes and issues.

After the video is a picture on which the user can access one of several interactive activities. The material is supported by worksheets which are on the CD-ROM and can be printed as and when required.



This is an excellent package which will be of enormous value to every primary and secondary school in the country. AU

Product details

Products: Nelson and his Navy (£50 ex VAT), Survival's Mysteries of Nature (£40 ex VAT)
Supplier: SCA (Anglia Multimedia)
Address: PO Box 18, Benfleet, Essex, SS7 1AZ
Tel/fax: (01268) 755811
E-mail: angliamail@aol.com
Product: Growing up Together
Price: Two disc pack costs £59.99 + VAT & are also available separately at £39.99 + VAT each
Supplier: YITM
Tel: (01264) 342992
Fax: (01264) 3427288

GAME SHOW

Games compatibility on the StrongARM – **Steve Mumford** reports

After the traumatic experience of fitting the StrongARM to your Risc PC, one of the first things you're likely to do is go through your old stock of Acorn games to see whether they work. As many will know, the failure rate is initially quite high, and this can be somewhat disheartening – after all, with all that latent power under the bonnet, it seems a shame not to give the chip a run for its money.

You might find this scenario familiar – when the Risc PC was in its infancy, the radical changes to its hardware meant that most people would face incompatibility problems at some time or other. The ARM Club came to the rescue with *Game On!*, an almost legendary product that covered the gaps between hardware and operating systems, allowing gamers to play their favourite titles once again. They've come to the rescue once again with *StrongGuard* – a product I hope to cover in a later issue. For more details, write to The ARM Club, FREEPOST ND6573, London, N12 0BR or email info@armclub.org.uk.

However, there are other products available. I've been looking at a couple that have developed quite a following on the Net and I was amazed at the number of games I could coax into life. The first is called *CrunchFix* by Jim Hawkins.

Some games, including *Sim City 2000* and the public domain *Firebolt*, use a compression system from BASS named *Cruncher*. Although this doesn't work on the StrongARM by itself, *CrunchFix* solves the problem entirely. All you need to do with this little module is run it before you try to load any games and it works invisibly in the background, intercepting any programs that were compressed using Cruncher and allowing them to decompress safely.

With *CrunchFix* in my boot sequence, I was able to play *Sim City 2000* again – and here's the first result. It's fast, responsive and was quite a liberating experience. Spurred on by that success, I tackled another of my favourites – *Star Fighter 3000*. This involves more work, and here's where I reveal Spidersoft's ace card – please welcome *StrongCache*, a program written mainly by Sam Clayton and designed to open the door to a whole host more games. The principle behind *StrongCache* is quite simple. You might have noticed that if you turn off the cache before loading a game that otherwise fails to work, sometimes that's enough to get round the compatibility problems. However, the decrease in speed is horrifying and since most games are single tasking, you can't turn the cache back on without help.

StrongCache is an interrupt-driven module that provides hotkeys for control of the StrongARM's cache, so all you need to do in practice is turn off the cache, wait until it loads, then hold down another key combination and, as if by magic, you have a program that works. In the case of *StarFighter 3000*, the cache can be engaged once more after the static effect appears on the screen.

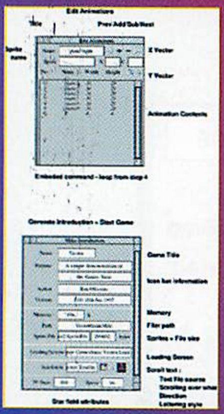
So, what's it like? I've played Star Fighter on a variety of platforms – on an Acorn A5000 it's playable, although it lacks a little punch. On the Playstation, it's slower than I'd like, but the graphics are of a much higher quality. On a StrongARM?

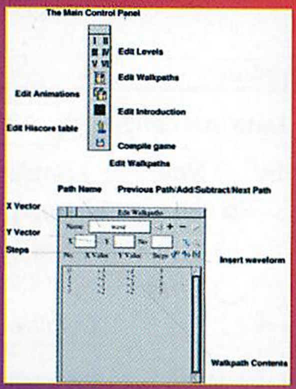
I can thoroughly recommend the experience – explosions occur without even the tiniest hint of slowdown and low-level flying will take your breath away.

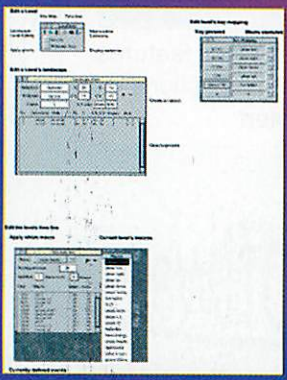
In fact, it's necessary to tell Star Fighter to moderate its frame rate, as the game becomes ridiculously fast if the screen isn't full of buildings. I'm happy to say that *Elite* works as well, so now there's no excuse to sit around doing work when you could be welded to the computer keyboard.

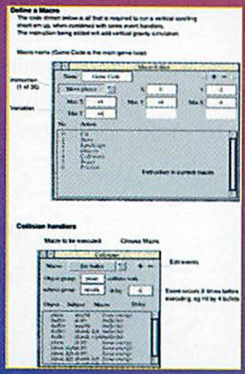
Of course, if all that spare processor time is available, it begs the question of which game is going to be the first to make use of it – and with the raw power that the StrongARM provides, I can predict that a few eye-openers will be revealed soon.

Both of these utilities are available on the Internet, and I'd strongly recommend downloading both of them – you'll be amazed at how successful these simple techniques can be. *StrongCache* can be found at Spidersoft's home page, *http://www.argonet.co.uk/users/d.s.mars*, and *CrunchFix* is available at









Typical working screens from The Game Suite







Load of BHP in Brake Horse Power



http://www.argonet.co.uk/users/harry.alban/programs.html.

If you haven't got access to the Internet, send me a formatted floppy disc with a stamped addressed envelope and I'll send them to you.

On the subject of compatibility, it's worth taking a look at a couple of Web pages – Peter Smith and Martin Friar have extensive lists at *http://www.ursaminr.demon.co.uk/sagames.html* and *http://www.friar.demon.co.uk/acorn/compat.html* respectively.

The Games Suite

Ben Ollivere, a programmer within the Grasshopper Software team, has informed me that they're almost ready to release *Game Suite*, a bundle of utilities designed to allow anyone to write their own homegrown titles.

The package's specifications display a wide variety of features from password protection of levels to parallax scrolling, and the program itself makes use of standard sprite files, cutting down on the work involved and allowing the user to edit the graphics with ease.

Ben tells me that the package is aimed somewhere between novice programmers and those with a reasonable knowledge of the subject. Although the *Game Suite*'s routines are fast, if you're a good ARM code programmer, you probably won't have much need for the package.

The main program is constructed from two major parts – a compact module holding the code, and an editor that provides a simple front end to the module's functionality. If you're more experienced at coding you can access these routines via SWI calls, but it's not necessary.

Once you've designed your sprites, *Game Suite* allows you to animate them easily and attach them to walkpaths so you can control their movement onscreen. Game Suite supports a macro language, and this is how the more complex issues of game design are tackled – you can use this language to create new objects, change their state, delete old ones, increment score and generally define how your game objects behave together. The module provides routines to handle scrolltexts and starfields too, so the author can dedicate more time to the subject of gameplay.

One of the interesting features of the Game Suite is that it's designed to be expandable, and apparently plans have been laid down for a 3D module to be added to the system. I'm looking forward to seeing the full product – maybe a simple-to-use editor is what we need to prompt increased games production on the Acorn.

If you would like to know more, take a look at *http://users.ox.ac.uk/~sjoh0576* or write to Grasshopper Software, 6 Truro Close, East Leake, Loughborough, LE12 6HB.

And finally

I've just got time to give you a few nuggets of information. Gareth Moore's Web pages, dedicated to Acorn Gaming, have undergone a small translocation to the Doggysoft Web site – charge up your browsers and aim them at *http://www.doggysoft.co.uk/gaming/.*

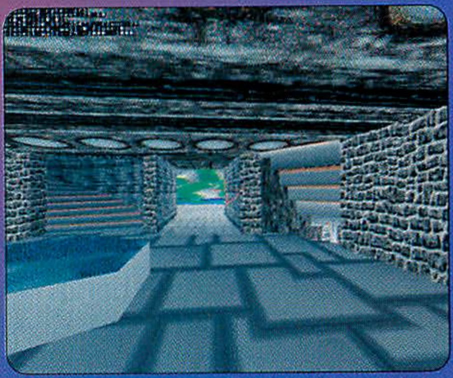
Take a look at the latest screenshots of *Destiny* and *Break Horse Power* – the new name for TBA's 3-D racing game. Although they both appear to be improving as each month passes, only time will show whether they'll capture the essence of playability we're all hoping for. Will they be the first flagships of the next generation of Acorn games? I certainly hope so.

While we're on the subject, Andrew Docking's *Drifter* is coming along nicely and should be ready in the near future – it's certainly progressed a long way since the screen shots in the last issue. However, for those people who've written in suggesting the levels look a little flat, I'm afraid I'll have to reveal that we won't be getting the full *WipeOut* experience yet – Andrew describes his game as "more of a hybrid between F0 and Mario Kart on the Super Nintendo". One thing is certain, though – from the response I've received it would appear that a true *WipeOut* clone would be immensely popular. We've got ample processing power in the high-end machines, so are there any takers?

Destiny just gets better – one day we'll play it







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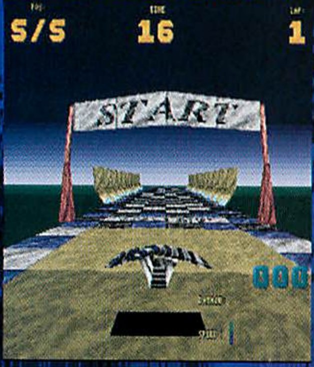
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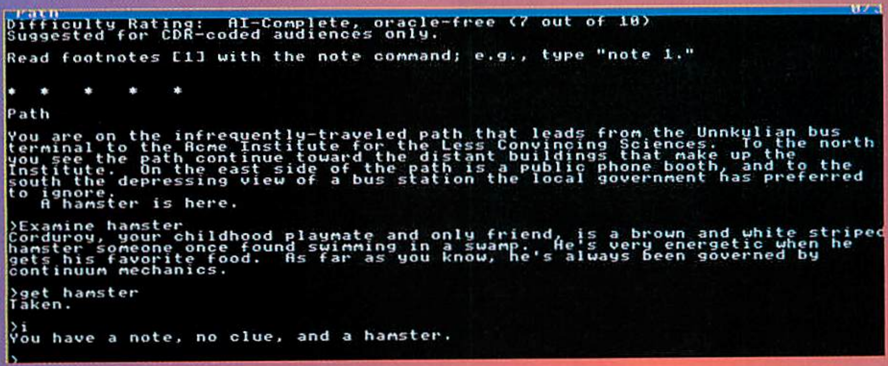
Design, Code and Graphics by Andrew Docking.

 1 Percy Street, Sheffield, S3 8AU.
Tel: 0114 276 9950 Fax: 0114 278 1091 Web site: www.rsenter.demon.co.uk

VISA

Burnt Sienna: Val, Frost

Graham Nelson reviews 60 games now playable under RISC OS



In a recent, pretty unscientific poll of "1996 games worth downloading", held on the Internet newsgroup rec.games.int-fiction, *The Wedding* and *BSE* came third and fifth respectively. Good to see the first two places in the *Acorn User* contest making their way in the wider world, and congratulations once more to Neil Brown and Chris Smith.

This seems to be the season for belated round-ups of 1996. Most of the best games arose from the competitions, the annual all-Internet contest held in October and our own, back in the summer. Among the others, Andrew Plotkin's *So Far* was the largest and most ambitious game of the year.

It begins in a theatre far in the future and on another world, yet the play is anything but futuristic and, if anything, has the feel of a Jacobean tragedy. After the show, the player pursues a surreal lure and is whisked away to yet stranger milieus. Up to now (I'm trying to avoid saying 'so far') the big picture has eluded me, but it's a quality work.

Most unlikely game of the year (well, if you don't count Andrew's 'teach yourself to program in Scheme' contest entry) was Patrick Wigfull's *Return to Karn*. Diehard fans of *Dr Who* will be surprised, not to say astonished, to see an interactive fiction sequel to the *The Brain of Morbius*, a Gothic sci-fi story broadcast in 1976.

It was so diluted in production that the author, *Who*-veteran Terrance Dicks, insisted on the pseudonym "Robin Bland". In the event, plenty of good over-acting by Tom Baker saved the day, but the same can't really be said for *Return to Karn*, where the player must himself play a Time Lord. Still, aficionados may enjoy fooling around with fluid links, tinkering with K9 and so forth. Bring your own scarf and Oscar Wilde hat.

TADS for RISC OS

The indefatigable Kevin Bracey has done the Acorn adventure world another service by porting the *TADS* 'runtime' code to RISC OS. According to Chambers Dictionary, the word 'tad' is a short form of 'tadpole' (esp. U.S.): TADS is not frogspawn, but it is American. The *Text Adventure Development System* was written by Mike Roberts in 1987 or so and it remains the arch-rival of my own system, *Inform*. Which is Holmes and which Moriarty, I'm not sure: TADS is the better programming language, but maybe Inform is more practical. Anyway, the TADS compiler remains unavailable for RISC OS: Kevin's new application is only able to play TADS-written games.

As ever, the TADS games are really available only if you have access to an Internet connection and may be located at *ftp.gmd.de/if-archive/games*. The RISC OS TADS application is also at the 'if-archive', as are all the games mentioned in this article.

Acme Cave Games Inc.

Back in the late 1980s, TADS was the brash newcomer elbowing aside the established design tool (AGT, the *Adventure Games Toolkit*). It properly took off only in 1991, when the *Unnkulian Underground Adventures* were posted to the nascent Internet.

Written by Davids Leary and Baggett of MIT, the series began straightforwardly enough, with *UU1* and after a decent interval *UU2*, then turned backwards into *UU0* and *UU-one-half*. The *UU* games are relentlessly tongue-in-cheek: explore Lake Draounheer and the Beegas'hell Mountains, etc., etc. There's only a certain amount of this I can take, but it's worth noting that as well as being parodies of old-fashioned adventure games, they're also quite good old-fashioned games.

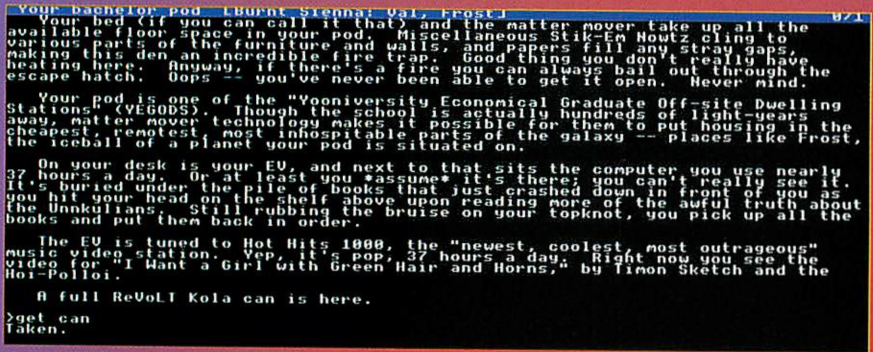
The longest-running joke is that you can buy almost anything from Acme, made with Cheez (whatever that is). Now this is a direct steal from the Road Runner cartoons, where every week Wyle E. Coyote would pop up with an evil grin and a box labelled, say, 'Acme Exploding Roadsigns Inc.'. In *UU-one-half*, for instance, the player is an Acme salesman down on his luck, while in *UU2* one of the objects is to learn the secret of Cheez.

Rylvania Lives!

Perhaps the two most acclaimed TADS games are the latest by the two authors of the *UU* series: David Leary's *The Horror of Rylvania* and David Baggett's *The Legend Lives!* Both were at one time shareware, but *TLL* is already freeware and *HOR* will hopefully join it soon.

Rylvania is a country somewhere in eastern Europe: I wonder if anyone has made an atlas of the imaginary countries literature has squeezed into the Balkans? It's pretty clear what kind of terrain is Rylvania: your travelling companion is bitten by wolves, in a dark forest during a night storm, not far from a church specialising in holy water. Where better for

Burnt Sienna: Val, Frost



shelter than the castle up on the mist-shrouded crags?

I must say that the only person I've ever met who came from Transylvania was not in the least vampiric, despite years of Communist Rumanian dentistry. But Rylvania is a fiction world, and vampire games go right back to Scott Adams' *Adventure International* line. This one's somewhere between *Hammer House of Horror* camp and Anne Rice chic. But the puzzles are much better than the setting, and it's well worth a play.

For my money *The Legend Lives!* is the best of the TADS games. It's notionally based on the *UU* games' world, a sort of sequel set incredibly further ahead in time, but you don't need to have played the earlier games. Actually I don't think David Baggett will thank me for saying 'notionally': after all, the *UU* legend is the one in the title. Still, *TLL* is a solid science-fiction game, huge and sprawling with ideas: lavish with text, too, which sometimes impresses and sometimes palls.

Really virtual

Baggett's Universe is a vision of America physically wired up Internet-style. A myriad of planets are settled: travel from world to world, by teleportation, is as easy as dialling a telephone number. These coordinates are given as colours, so the player starts out at 'burnt sienna' and jumps around in a spectrum including 'chartreuse', 'thistle' and 'misty rose'.

Every so often the physical location also appears: the player's 'pod' – a one-room flat – is actually located on the ice planet Frost, for instance. But it's easy never to notice the world outside. For one thing, you can watch 100,000 television channels, all basically MTV, but it's worth catching pop star Timon Sketch, who'll appear in the game later on. Planets vary from flat, middletown farmland (Kansas) to hip clubs (New York). Almost everyone is faintly unhappy, which I hope isn't really true of America.

The Legend Lives! is like Gibbon's *Decline and Fall of the Roman Empire*: it goes on and on, and the best jokes are in the footnotes. Adventure game footnotes are a trick lifted from Infocom's *The Hitchhiker's Guide To The Galaxy*, like so: the game describes a pub jukebox as playing 'Hey Jude by the Beatles [4]'.

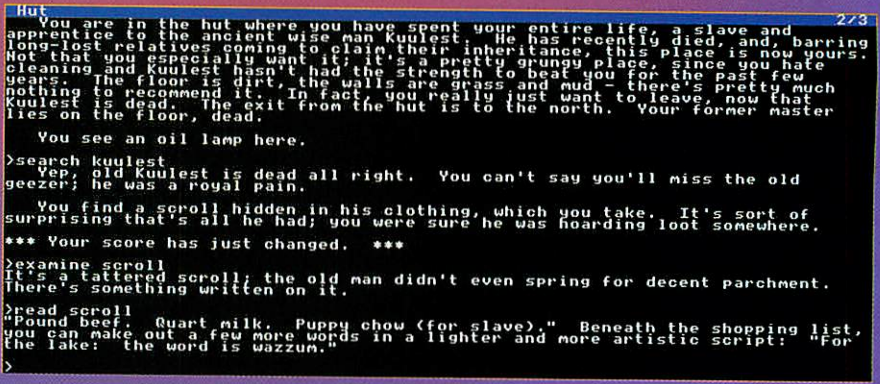
The player then types 'footnote 4', which replies 'The first single they recorded on their own Apple label, and one of their most successful songs ever.' This information is almost invariably useless. Footnote 3, for instance, reads in full: 'A meaningless coincidence.' The footnotes in *TLL* are pretty often about Akmi (yes, the old *UU* Acme corporation, now masters of the Galaxy) but also flesh out the future world.

The real themes are 'what kind of future do we want?' and 'can a computer program be alive?'. For instance, *TLL* actually contains *UU3* – yes, part 3 of the *UU* series – inside itself as a game for the player to play, as a piece of archaeology and even, perhaps, as a character. One of the player's adversaries is a computer virus. This is all standard cyberpunk sci-fi stuff – the book is alive, nothing is 'real' – but here you really can see the distinctions blur. The play within the play might be the real play after all.

...and about 56 more

To finish up with, I must add that there are something like 60 TADS games available. I think I'd recommend *Lost New York*, a track across the city's history, and *Toonesia*, a cartoons game with cartoonish rules. For a short game, try the delightful *John's Fire Witch*.

If you're looking for a serious exercise, try *GC: A Thrashing Parity Bit of the Mind*. Not the strangest title in the collection (I think *Gerbil Riot of '67* probably wins that one) but maybe written for the strangest event: *GC* was one of the events in the MIT Artificial Intelligence Laboratory's Winter Olympics of 1994. Somehow, I keep wanting to imagine David Coleman commentating while men in skis, or fresh from the bobsleigh run, hunch over the keyboard. Only in America.



Star info

The results of the Circle Challenge plus more psychedelic sensations from the two Daves

star info

Hello, good evening and Welcome

Author: Andrew Booker

NOT THREE programs, we're afraid, just one – the last one, *Welcome*. This is a small desktop utility that allows you to change the text in the welcome banner displayed while the desktop starts up.

We have covered this in the past, but **Andrew Booker** has written a very neat little wimp task which handles just about everything. Load the program as normal, and click on the icon-bar icon. A window will open showing the current four lines in the start up screen. By default, these will be:

Line 1: RISC OS 3
Line 2: © Acorn Computers Ltd, 1992
Line 3: Initialising . . .
Extra: <blank>

You can alter the text as you wish – the size of the start up screen 'box' will be adjusted automatically to fit the text. The 'Extra' line is displayed under the default 'box'.

When satisfied with the message, click on the save icon in the main window and use the normal save box to save the module created somewhere, probably inside your *!Boot* application. The module must then be loaded in the boot sequence BEFORE entering the desktop, with a line such as:

```
RMLoad <Boot$Dir>.WelcomeScr
```

You can't change the default Acorn sprite used on the start up screen.

Andrew says 'If you are interested take a look in ResourceFS, you will find a file 'Resources:$.Resources.Desktop.Messages'. This contains, among other things, four message tokens *RO3*, *CopyRt*, *Init*, and *Pre*. The text after these four tokens is what is shown on the start up screen. Now, look in the PRMs (page 2-414), and you will find the SWI 'ResourceFS_RegisterFiles'.

This allows you to add new files to ResourceFS, or replace existing ones. The module created uses this SWI to replace the above mentioned file with the text for the new start up screen. However, the module must also contain all the other message tokens, unaltered, otherwise other bits of the desktop might complain.

To ensure that these tokens are left untouched, we have modified Andrew's program so it reads the old contents of the messages file and replaces the four relevant lines when it comes to them. All other lines are copied to the new file untouched.

Andrew has also sent in an entry for our occasional series of 'Most Useless System Call'. He directs us to page 3-695 of the PRM and the call PDumper_CopyFilename. Actually, we think Andrew is not being entirely fair with the word 'useless' as this call takes a pointer to a buffer in r0, its size in r1 and a pointer to a string in r2. It copies the string at r2 into the buffer at r0, stopping at any control character and replacing it with an ASCII 0.

This is exactly the sort of thing you end up doing all the time in WIMP programming and in C. What is useless is burying it away in the *PDumper* module.

Summit's up

Author: Les Thurlby

HERE'S A little party trick from **Les Thurlby** you can try at your next, er, adding-up party. Pascal's triangle with an eight-digit base is formed by commencing with a line of eight randomly chosen digits. The sum of each adjacent pair is then placed above them, the sum first being reduced by subtracting 7 or 14 where possible – this is known as casting out 7s.

This process is continued for successive lines until an apex of one digit is reached. The value of the apex digit can be calculated by merely adding the first and eighth digit of the original line, again casting out 7s. Ask a friend or colleague to supply the commencing eight digits, then immediately state the value of the apex digit and you will appear to be brilliant at mental arithmetic.

Snow on Snow on Snow

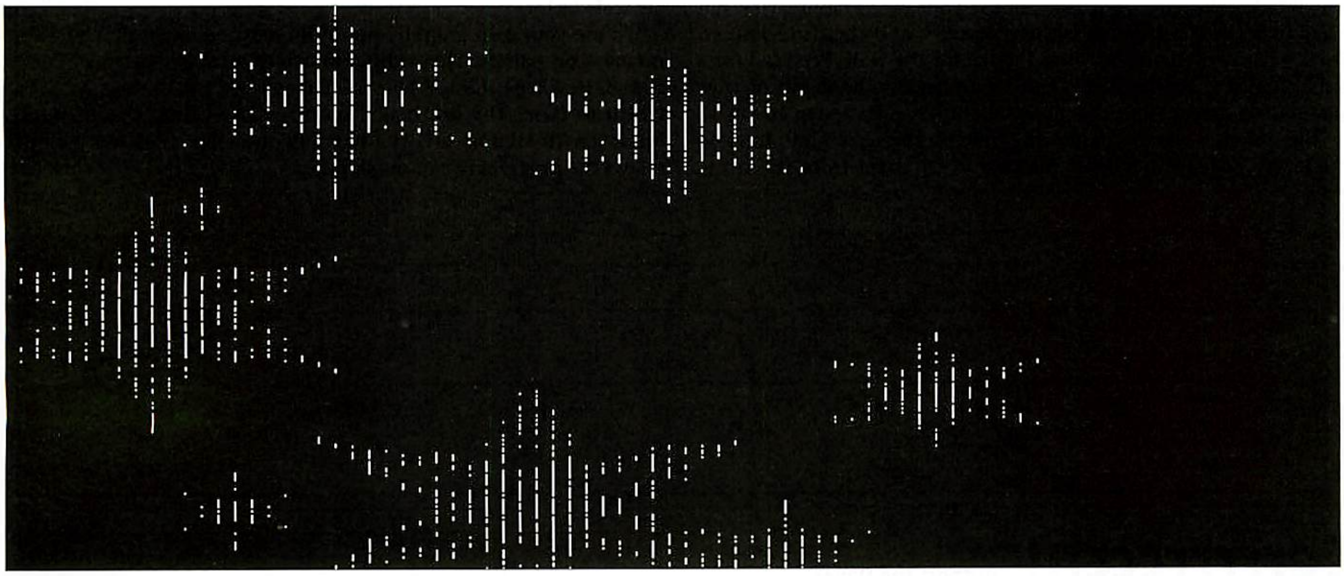
Author: Keith Wood

THAT LINE must surely score highly in the 'worst line in a carol' stakes!

As I write this the South East is still buried under thick snow. By the time the magazine is out it will probably have all melted away, so just to remind you what January was like, here's **Keith Wood's** interpretation of falling snow. The cunning twist in *SnowFall* (if you can have a twist when it comes to falling snow) is that the flakes are viewed from above and are seen falling to an admittedly rather black ground.

The flakes can be made to fall either at the mouse pointer, by holding down the left hand button and waving the mouse or randomly by holding down the right hand button.

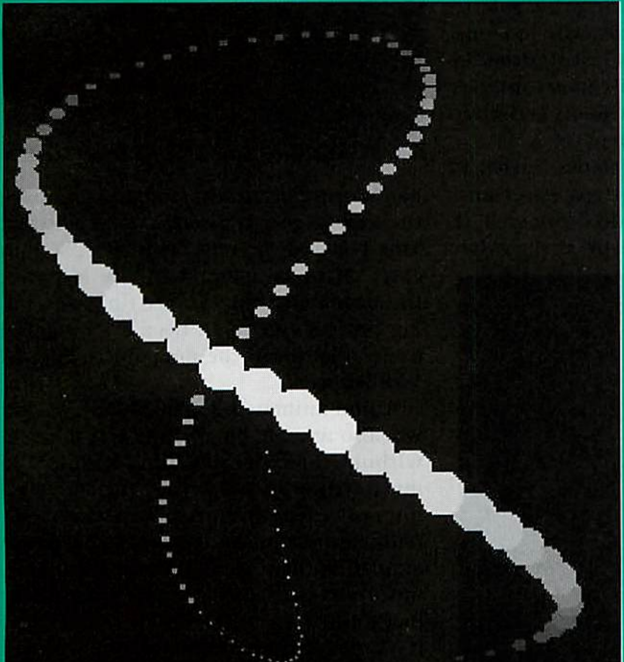
Keith plots the flakes using pre-scaled sprites for speed. He uses a two-colour mode to reduce memory and also make the plotting as quick as possible. The flakes are generated by plotting a random squiggle and copying it and transforming 12 times.



Stinger Beats & Techno Rays

Author: David Hyde

HERE IS A pair of classic demented colour cyclers from **David Hyde** that are guaranteed seriously to do your head in. Both can be altered by holding down the left hand mouse button to choose different random colourings. Don't hold the button too long, or you might give yourself brain damage! *Spiral* is particularly nice and produces some wonderfully watery/organic effects – try it along with some good cheesy techno music.



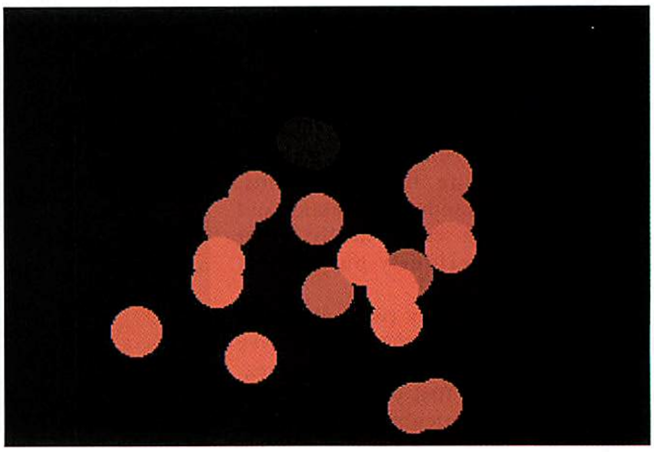
A three Stoner

Author: Nigel Stoner

. . . OR A collection of three graphical excursions from **Nigel Stoner**. First we have *Henon2*. We've visited the world of strange attractors and particularly the henon curve a number of times now. Nigel's demonstration is nice and fast and uses some psychedelic colour cycling to spice things up a bit. Some patterns are not as quick as others, so if you think the display is a little boring, give it a chance! And as you may have guessed, this is the sequel to *Henon* which we carried a couple of issues back.

Second from Mr. Stoner is, in his words we stress, 'A lame attempt at a lava lamp (I will make one eventually, I promise!)'. Well, it may be a lame attempt at a lava lamp but it's still quite interesting. Perhaps version 2 will be more lava-y. In the mean time would anyone else like to have a good at Matmos' finest? We'd like to see the results. (No prizes for recognising the reference.)

Finally from Nigel is *Journey* and this will take you right back to sitting in the back of the car watching the countryside go past and constantly asking "Are we nearly there yet?" and crying when your choc-ice melts.



Out on the tiles

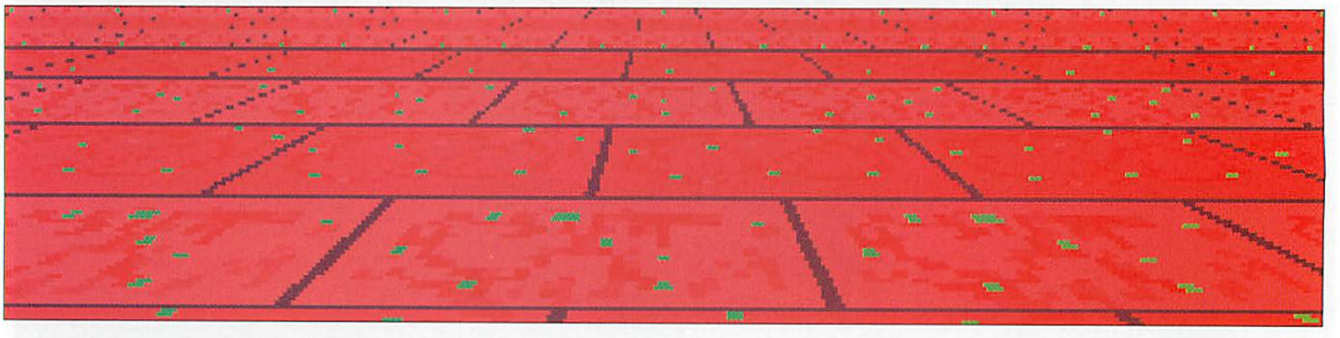
Author: Matthew Wilson

PROJECT IS A demonstration of what would happen if you tiled the kitchen floor with a sprite, then accidentally shrank yourself to a height of three inches and were then pursued at great speed by a large and particularly ugly beastie. (We would say spider, but that might be just too scary.)

Author **Matthew Wilson** has supplied a sprite of a wall with which to try this effect but you can use your own graphic. First run *!Here* to set the current directory correctly and then run *Project*. Enter a tile sprite name or press Return for the wall. Press 0-3 for a resolution, 0 is the highest. Type a number for the depth of view (about 75 is good). Move the mouse about. Press Escape to quit.

'The system works by translating lines on the screen into lines on the large sprite, rather than plotting every pixel from the sprite (which would be wasteful of time, and wouldn't always work). The distance from the bottom of the viewer (not the eye) to the line we want to draw is proportional to the TAN of the angle to that line. By taking the angles 0° to 89° (90° would give infinity!!), we can find the distances to the lines on the screen which we want. This gives us the offset into the sprite. Then the line is plotted with an appropriate scale factor.

'To use your own graphic, the sprite must be mode 13, and have no mask or palette. The width and height must be powers of 2 (eg. 2, 4, 8, 16, 32, 64, 128). When you have drawn the sprite, change its width to twice the original. Now copy (by using 'Use sprite as brush', with 'Shape' off) the left half into the right half — this allows the program to run much faster.



Eerrrrrccch!

Author: The Daves



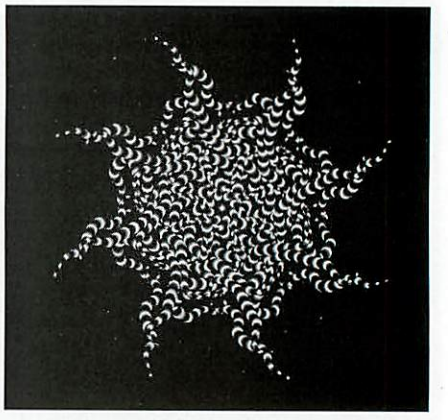
FOLLOWING ON in the great Jan Vibe tradition of disgusting graphical demos, we'd like to present our own contributions to the great circle challenge. *Writhe* is very much in the same league as its forefathers *Guts* and *Tentacles*, but possibly veers into the arachnid field just a tad.

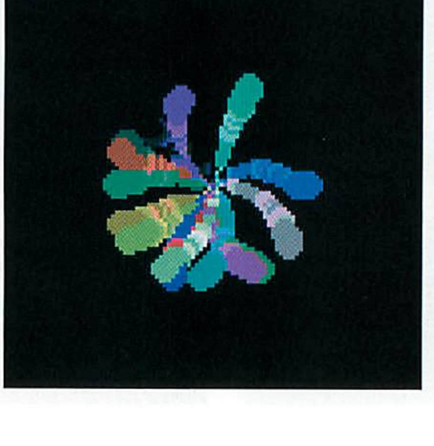
There are four species - sorry - versions of Writhe. The first, and quite possibly the best, is just plain *Writhe*. It plots a collection of, er, writhing, tentacles, limbs, feelers, whatever, randomly snaking and scuttling about the screen. Really rather creepy and can seriously put you off lunch.

Writhe2 produces only two feelers, but plots each one eight times at 45 degree intervals. This produces a much more regular shape than the first version, but can still make some particularly unpleasant effects. You can adjust the number of tendrils and the number of plots by editing the first few lines of the program.

Writhe256 and *Writhe256c* are attempts to add colour to the proceedings. Both programs need fully definable palettes and are Risc PC only. The first is merely a 256 colour version of the original *Writhe*. As is often the case when extending colour cycling to 256 colours, the extra palette entries make the cycle physically too long and the original effect is lost. *Writhe256* instead splits up the 256 colours into 16 individual palettes of 16 colours and plots each tentacle with a different set.

The other thing about colour, is that it can detract from the desired effect and although *Writhe256* is indeed coloured, it doesn't seem quite as creepy as the original *Writhe*. In an attempt to bring back the yuk-factor, *Writhe256c* was written. This is based directly on *Writhe256*, but each set of 16 colours slowly mutates. Unfortunately this is a very time consuming process and you'll need a StrongARM to be able to run the program at original *Writhe* speed!





A non-animated 32,000 colour version was also written, but, surprisingly enough, without the colour cycling, it didn't so much writhe as, not writhe. Further development ideas included splitting each tentacle into many segments and either animating them along the whole path, or, more adventurously, squirming them maggot-like about the screen. These ideas have never been implemented - would anyone else like to take up the story?

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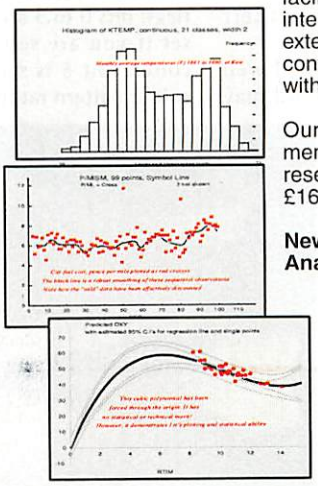
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Symphony no. 2 Author: Nytrex

NO, STOP. Don't quit *Flux* just yet, because we have another *Digital Symphony* offering to tempt you. This one is called *SpaceWave* and comes from a musician who is rather enigmatically called **Nytrex**. We can confirm that Nytrex (or is it Mr Nytrex?) lives/exists in Inverurie, near Aberdeen.

SpaceWave weighs in at just 25K – quite an achievement. Incidentally, if you've written a DS, Tracker, or MIDI tune that you think might entertain the impeccable *info readership, send it in. Because disc space is limited, we generally don't carry anything longer that 100K and the smaller the better really. (The same goes for all submissions.)

Digital Symphony features a 'packing' option which can help bring down file sizes. And if your tune is still too long, maybe it's time to ask yourself whether the 200K sample of the Bolivian zither is vital to the integrity of the piece...

Trance would be a fine thing

Author: Clem Edmond

CLEM EDMOND from Neath is a name that will feature a lot in forthcoming *infos. You may already have heard his *Sheeps* in the January issue, and this month we feature *Trance*, one of his best Digital Symphony tunes (in our humble opinion).

If you haven't got a copy of Digital Symphony, remember that you can play the files with good old Flux which will also bedazzle you with a suitable lightshow.

Clem describes his general style as 'happy hardcore' and who are we to disagree? One point of debate though is what the strange androidy fellow says during Trance. "Fourteenth step activated" is one possibility, or maybe even "Maud and Ted get back to basics." If you have any suggestions, you know where to send them...

Wing commander Author: Jan Vibe

THE COMMANDER of these wings is none other than **Jan Vibe**, ace doodler and all-round psychedelic good-guy. This month's collection includes variations on two themes.

Jan is perhaps one of the most famous *ColourCard Gold* users and many of this month's offerings are written using ColourCard modes. We have however made the necessary (minor) alterations for Risc PC users who will find versions for their machines in the appropriate directory.

SpiderWeb creates a sort of tiled web thing. Perhaps someday the Pinboard may be able to tile like this. Then again... *SpiderWeb* uses the ColourCard mode 103, Jan's favourite it seems. This is 800 x 600 with 256 colours. *SpiderWeb2* is just a colourful variant of the original. The palette is changed to colourful scales in blocks of 32.

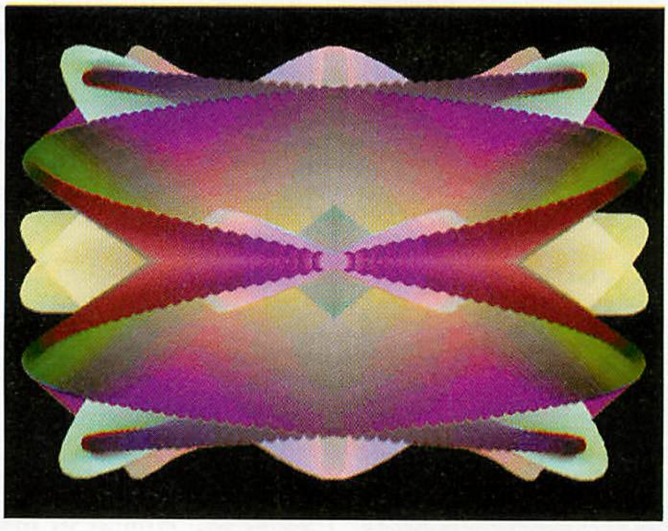
We apparently delighted Jan by introducing the SWI OS_SetColour into one of his previous programs, and since the command works on the ColourCard as well as the Risc PC, he uses it all the time now.

In 256 colour demos, particularly those where you redefine the palette to suit your requirements, the GCOL command is pretty useless if you want to choose a particular colour from the palette. This all dates back to how colours are arranged in 'old' 256 colours modes (like mode 13) where you only have limited control over the palette. To select palette colour N, use this instead:

```
SYS "OS_SetColour",,N
```

For completeness, R0 actually contains flags: bits 0 to 3 are the plot action, bit 4 is set if you are selecting the background colour, bit 5 is set if you are choosing a colour pattern rather than a straight colour, and remaining bits are zero. The plotting action is one of the following:

0	overwrite with colour
1	OR with colour
2	AND with colour
3	EOR with colour
4	invert colour
5	leave unchanged (!)
6	AND with (NOT colour)
7	OR with (NOT colour)
8-15	as above, but background colour is transparent.



Wings again uses mode 103. It's one of those Lissajous-like affairs, with gradual progression from the colour at one 'wing' end to the other. The Risc PC version is virtually identical with just our faithful PROCmode included and a ColourTrans call replaced by GCOL r,g,b which is neater and a little quicker I dare say. *Wings2* is simply a mode 21 version which will work on all machines with multisync monitors. *Wings3* is a 32 thousand colour version. On the ColourCard this is achieved with the rather bizarre mode 107 - 576 by 424 pixels.

Finally, *Wings4* just asks you which of the available modes you would like to use, and probably saves a lot of bother.

Hidden benefits Author: Dan Ellis

A somewhat sneaky module now from Dan Ellis. *HideTask* does just that – allows a task to be run without it appearing in the task manager window. Now, we're not quite sure what sort of dodgy software might require such a module but we're sure someone will find it invaluable.

Once installed, use the single SWI provided as follows:

```
SWI "HideTask_SetName","TaskName"
```

just before the task you wish to hide is started. Now, when the task does start, it will not appear alongside the others. It goes without saying that this is only really useful for tasks which don't put an icon on the iconbar or open any windows! Dan explains how it works:

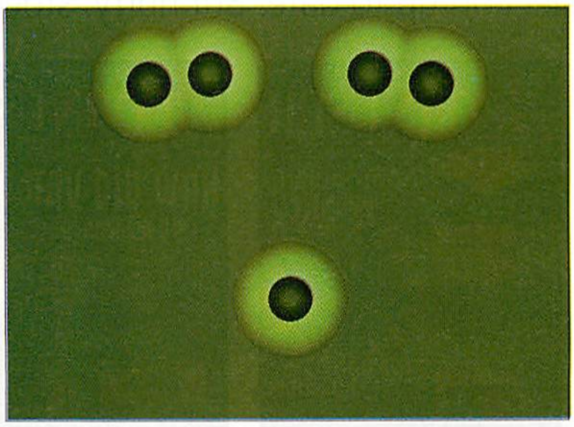
"When a new task starts up (using Wimp_Initialise) the wimp broadcasts a message informing any interested task of the name, wimpslot size and CAO pointer of the new task. The task manager uses this message to produce its list of tasks. This module applies a filter to all tasks (including the task manager) that prevents them from hearing about the new task starting up."

Doings the rounds – part II

Authors: Richard Wilson and Ray Taylor

LAST MONTH we presented the best of the Basic submissions to our circle challenge. To do them proper justice, we waited until this month to publish the two best machine-code entries.

Runner-up is *AlienBlobs* by **Ray Taylor** from Birmingham. These spooky little pulsating chaps bounce around their green world, merging from time to time as only alien blobs can. Apart from being an excellent circular demo, you will see by looking at the program that is also an excellent example of how to convert Basic into assembly language painlessly. Ray has described his method, which will be useful for new or infrequent assembly programmers:



- Step 1. Write the program in Basic as a series of short procedures, without parameters, in a style that is easy to translate into assembler:
  - a) Split complex calculations into stages
  - b) Use only global indirected integer arrays
  - c) Use only integer variables
  - d) Use local variables wherever possible
  - e) Identify global and local variables and constants
- Step 2. Thoroughly test and debug the program.
- Step 3. Add a skeleton assembler section with labels for the global variables and array addresses of the Basic program.
- Step 4. For one procedure at a time:
  - a) Copy the Basic procedure into the assembler section
  - b) Translate into assembler, line by line. Keep original Basic state ments as comments. Name registers for the global and local variables used in the procedure
  - c) Change the top-level PROC to a CALL
  - d) Save and re-test the program: any errors must be in the last-translated procedure

The winner in the machine-code section is **Richard Wilson** of East Markham near Newark. He has written four variations on a theme. *3Dspiral* is a classic 'spinny thing' and a worthy winner. The graphics are quite simple, and very effective as a result. Basically, a line of spheres of decreasing radius are animated in 3D space.

Version 1 is the plain, circle-only version. Version 2 allows the speed and direction of the motion to be altered using the left and right mouse buttons. Version three permits palette alteration: keypad 1/4 change red, 2/5 green and 3/6 blue. Finally, version 4 features an interesting variation in the way the spheres move.

Congratulations to Richard and Ray who will shortly receive a small quantity of cash for their efforts, as will the authors of all the other circle programs published. Thanks again to all those who participated – we hope you enjoyed the challenge.

Don't forget our current Cloud challenge – see the February issue for details. Please let us have your submissions by February 21st. And if you have any suggestions for future challenges, do let us know.

(Not very) hard lines

Author: Graham Campbell

YOU KNOW how it is. King Gustav is on the blower, wondering how your getting on with that symphony he asked you to write in honour of his favourite niece's birthday and you just can't think of a good ending. Then, in a flash, inspiration! You rummage through the piles of discarded tunes but disaster – you cannot find a single fresh sheet of manuscript paper.

It wouldn't be a problem if you had Graham Campbell's Manuscript application though – you could just print some of your own. Apparently, manuscript paper costs a bob or two these days, so with the rising number of GCSE music pupils out there, Graham thought a simply little prog like this might be the answer to many a music teacher's prayers.

Just run the program, select whether you want a single or double stave, and then choose the size required. The program doesn't use a printer driver but instead controls the printer directly. It was written for an HP InkJet but should be easy enough to convert to other major flavours of printer.

You may need to alter the !Run file if your printer is configured to have line feeds disabled. Simply remove the double bar characters before the *FX6 commands in !Run before you start.

Compatibility table

Program	RISC OS 2	RISC OS 3.1	RISC OS 3.5+
Writhe	No	Yes	Yes
Writhe 2	No	Yes	Yes
Writhe 256	No	(Yes)	Yes
Writhe 256c	No	(Yes)	Yes
Snowfall	(Yes)	Yes	Yes
Project	No	Yes	Yes
Wings 2	No	Yes	Yes
Wings 4	No	Yes	Yes
Spiderweb	No	No*	Yes
Spiderweb 2	No	No*	Yes
Wings	No	No*	Yes
Wings 3	No	No*	Yes
Pascal	Yes	Yes	Yes
Henon2	(Yes)	Yes	Yes
Journey	No	Yes	Yes
Lavalamp	Yes	Yes	Yes
PsycheOut	(Yes)	Yes	Yes
Spiral	Yes	Yes	Yes
HideTask	No	Yes	Yes
3D Spiral	No	Yes	Yes
3D Spiral 2	No	Yes	Yes
3D Spiral 3	No	Yes	Yes
3D Spiral 4	No	Yes	Yes
Alien Blobs	No	Yes	Yes
Welcome	No	Yes	Yes
Manuscript	Yes**	Yes**	Yes**

* Only with a colour card ** Needs HP printer

*QUIT

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or, if your submission (including screen shots, text etc) is 100K or less, e-mail us (including your real address please) at: austarinfo@idg.co.uk

You needn't include a letter but please put your name, address and program title on every disc and include a text file containing your name, address, disc contents and program details. Diagrams, examples and background information are most welcome and an SAE will ensure your discs are returned. *info submissions only please.

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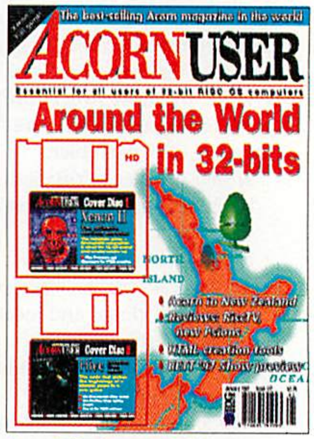
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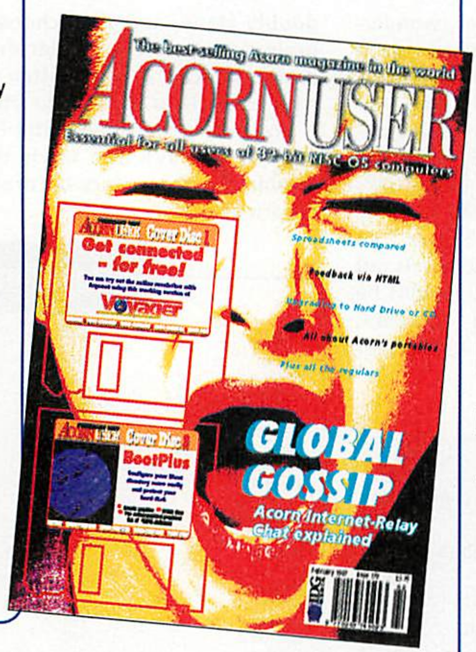
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Mike Cook explains the software for his serial I/O board project

Making it go

Last month I looked at the design of a serial input/output board. It was quite a complex design as it had an on-board microprocessor doing all the work. It is capable of working in two link-selectable modes and last issue I only had space to cover the simple Mode 0. Here I will wrap things up by looking at the more complex Mode 1.

This mode is selected when the mode select link is removed and, as explained last month, this results in the power LED flashing. This is called the command mode because the board accepts single byte commands from the computer connected to it.

In all there are 28 commands built into the current version of the firmware and they are summarised in Table I. Some might not make much sense on first examination so I would like to look at the rationale for including some of them.

Each command is simply a single byte in the range 0 to 27 and triggers off a different action in the interface board. Some require additional bytes of data to complete them and others send back bytes of information to the computer – it's like a two-way conversation.

To show what extra bytes are needed, each command has a *Receives* and *Sends* entry in its description. This is the extra bytes as seen by the interface in addition to the command byte. So if an instruction says it receives one byte and sends two, the computer will have to send the board an extra byte in addition to the command and it will get (receive) two bytes back.

...the board could rapidly gather a buffer full of data and then send it back over the serial link

The thinking behind the commands are two fold: First of all to make a flexible input/output system and secondly to utilise the hardware resources inside the embedded processor.

To start with the simple stuff, the basic requirement of an input/output interface is to input and output bit patterns. Therefore, there are commands to read and write each of the two ports separately. In addition there are commands to read and write these ports as if they were 16 bit.

Now initially port A is set up as an input and port B as an output, just like the board's mode 0. However, these ports are bi-directional – they can be an input or an output. Unlike the printer port that has to be set as either all inputs or all outputs, each individual bit can be set to be either an input or an output.

To use a bit as in output simply write the appropriate bit value to it. However, if the bit is needed as an input you must first write a logic 1 to it. After that all you need to do is read the bit back to see if it is being pulled down to a logic zero. This alone gives a very flexible 16-bit input/output system.

Remember that there is a processor controlling all this, so it is possible to make the board behave in a more sophisticated manner. Let's look at the hardware capabilities of the processor that we can use to create more complex commands.

The 87C750 processor has a 16-bit counter timer, 48 bytes of memory and three interrupt generating sources. There is actually a total of 64 bytes of memory but eight bytes are used as the processor's registers and I use the another eight bytes for storage and the return stack leaving the board with 48 bytes free. I decided that the first eight bytes of this memory would be used for specific commands and command vectors, leaving the last 40 bytes available as a buffer, see Table II.

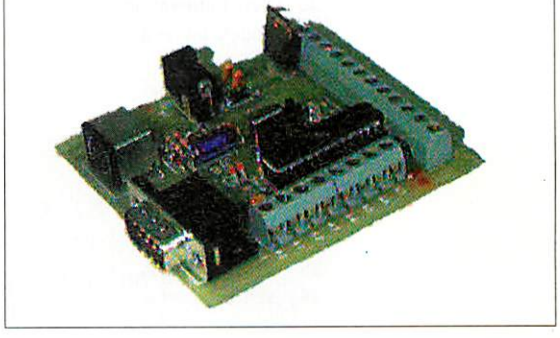
This memory is volatile – its contents are lost when the power is removed – but I made sure that I didn't initialise it so that resets have no effect. I thought I could make good use of the buffer memory. For example, the board could rapidly gather a buffer full of data and then send it back over the serial link, thus relieving the bottle neck of the serial speed.

So there are commands that store the bytes on port B in the buffer and then send them to the computer when they have gathered a certain number.

In addition if you want to monitor just the level of a single bit the board will do this and assemble them into bytes before it sends them. In this way you can look at a maximum sequence of 320 logic levels, clocked in at one microsecond intervals.

On the output side the buffer can be filled with a series of bit patterns that could be output sequentially

The serial I/O board



Making it go

without the main computer having to intervene. This is command 19 and can be used for producing the bit patterns for driving a stepping motor among other things.

The counter/timer is a 16-bit register that can be made to increment from a number of different sources. For example, it can count the transitions on one of the input pins, or it can increment automatically at a speed determined by the processor's clock – in our case this is every 1uS.

Finally, the automatic increment can be gated, that is enabled and disabled by an external pin. When the counter/timer reaches the limit, that is a value of &FFFF, it is reloaded from a 16-bit reload register. Therefore I included commands to read and write the counter timer as well as the control register that determines its behaviour. The actual bits to control how this operates are shown in Figure I.

In addition, when the counter/timer is reloaded, the processor can execute an interrupt service routine. There are two other situations that can trigger an interrupt service routine – either a low level or negative edge on bits 5 and 6 on port A. These interrupts are enabled using the interrupt enable register shown in Figure I. Note that the master enable can't be set by the user as it is used by the internal program of the board.

To have access to these interrupting conditions I have arranged some of the memory locations to act as command vectors – that is the memory contains a command number to execute when the interrupting condition occurs, see Tables II and III. This allows external events automatically to trigger the execution of commands thus freeing up the main controlling computer from a lot of poling of (or looking at) signal levels. In this way commands can work together.

I have also implemented a pseudo-command vector for use by the *Delay Command* command. When received this does nothing but decrement a counter. However, when that counter reaches zero it executes the command stored in the delay command vector. This allows the board to respond not to every external event but, say, one event in every 10. I feel the need for a concrete example coming on:

Supposed you wanted the board to send the logic levels on port B every 10 seconds. This could be done by using the timer to count for a specific time and then execute a read port B command. However, with a 16-bit counter going at 1uS per count there are not enough bits to last 10 seconds, the maximum is about half a second, therefore you have to use the delayed command. The complete sequence of operations would follow this sort of path.

To make port B an input you would first write all logic 1s to it. Then you would load the reload register to 15536 which means that it will take 50,000 increments to fill up. At 1uS per count this means the timer will reload every 0.05 second. The timer interrupt command, memory location 2, should contain the value 18 – the delay call command.

To prime the delay command parameters, location 7 and 6 should be set to 200 and location 3, the delay command vector should be set to 21 – the read port B command.

This will insure that every 200 timeouts, ie. 10 seconds command 21 will be executed which will send, to the computer, the value on port B. To set it going clear bits 7 and 6, and set bit 4 in the timer/counter control register. Finally you need to set bit 1 in the interrupt enable register to set it all going.

Table I: Command Summary

No.	Command	Receives	Sends
0	Version Number	0	N (null terminated)
1	Write/read Mode 0	1	1
2	Write ports A&B	2	0
3	Read ports A&B	0	2
4	Read all memory	0	48
5	Read Timer	0	2
6	Write reload timer	2	0
7	Read interrupt enable	0	1
8	Write interrupt enable	1	0
9	Read counter/timer control	0	2
10	Write counter/timer control	2	0
11	Read memory N	1	1
12	Write memory N	2	0
13	Bit Gatherer, on +/-	0	N+1 or 1
14	Byte Gatherer on +/-	0	N+1 or 1
15	Bit Gatherer on -	0	N+1 or 1
16	Byte Gatherer on -	0	N+1 or 1
17	Toggle bit on B	0	0
18	Delay Call	0	0
19	Output buffer	0	0
20	Read port A	0	1
21	Read port B	0	1
22	Read and stop timer	0	2
23	Start timer	0	0
24	Read serial data	0	N+1 or 1
25	Write to port A	1	0
26	Write to port B	1	0

Table II: Memory Usage

There are 48 internal memory locations some are used by certain commands but all locations can be accessed and used for anything. Memory locations are numbered from 0 to 47 and are used as shown below:

0	INT 0 Command
1	INT 1 Command
2	Timer overflow Command
3	Delay Command
4	Number of bytes, used in commands 13, 14, 15,16,17, 23
5	Toggle mask, used in command 17
6	Delay counter increment command 18
7	Reload Value, used in commands 18, 19
8	onwards 40 bytes of buffer space, used in commands 4, 13,14,15,16 and 24.

Interrupt Enable register

EA					EX1	ETO	EXO

Figure I: Interrupt enable register

EA	Master enable
EX1	External interrupt 1, bit 6 of port A
ETO	Timer interrupt
EXO	External interrupt 0, bit 5 of port A

Table III: Counter Timer Control

Gate	C/T	TF	TR	IEO	ITO	IE1	IT1

Gate	Counter / timer controlled by software or hardware; =0 Software control will run when bit TR=1; =1 Hardware control will run while bit 5 on port A is =1 and TR=1.
C/T	Timer or counter selector; =0 Timer operation, input from internal system clock 2uS; =1 Counter operation, input from bit 7 on port A
TF	Timer overflow flag, set by overflow cleared by hardware on entry to interrupt service routine.
TR	Timer Run when set the timer is on.
IE0	External Interrupt 0, edge detected on bit 5 on port A cleared by hardware on entry to interrupt service routine.
IT0	Interrupt Type 0 control. Determines the way in which bit 5 on port A generates an interrupt.; =0 Interrupt generated on a low level; =1 Interrupt generated on a falling edge.
IE1	External Interrupt 1, edge detected on bit 6 on port A cleared by hardware on entry to interrupt service routine.
IT1	Interrupt Type 1 control. Determines the way in which bit 6 on port A generates an interrupt.; =0 Interrupt generated on a low level Interrupt generated on a falling edge.

You can see how you can get quite sophisticated behaviour by linking commands together like this.

The board is designed to be used in your own projects but in order for you to become familiar with the command operations I have written an application called SerialCom which is on the cover disc. This is another in my series of monitor applications and has a similar themed icon. It allows you to send commands to the board and look at the data sent back.

You can either type in the command number or select it from a pop-up menu. Any additional bytes you need to send are shown in the *extra bytes* field and should be typed into the bytes to send field these can be in decimal or, if preceded by &, in hex. Then simply click on the send button to issue the command. Any bytes received from the board are displayed in hex in the fields at the bottom of the window.

The exception to this is for command 0 where the ASCII of the returned bytes are sent. For each command there is a draw file which describes the command in detail along with useful diagrams, this is accessed by hitting the Help button once a command has been selected. The application is designed not to crash if no board is attached so go ahead and experiment with the help files.

Well that's about all for an introduction to this project. Now that it's in our armoury of interfaces no doubt it will be making future appearances as I run the risc. AU

The components for this project:

Programmed PCF87C750	£12.00
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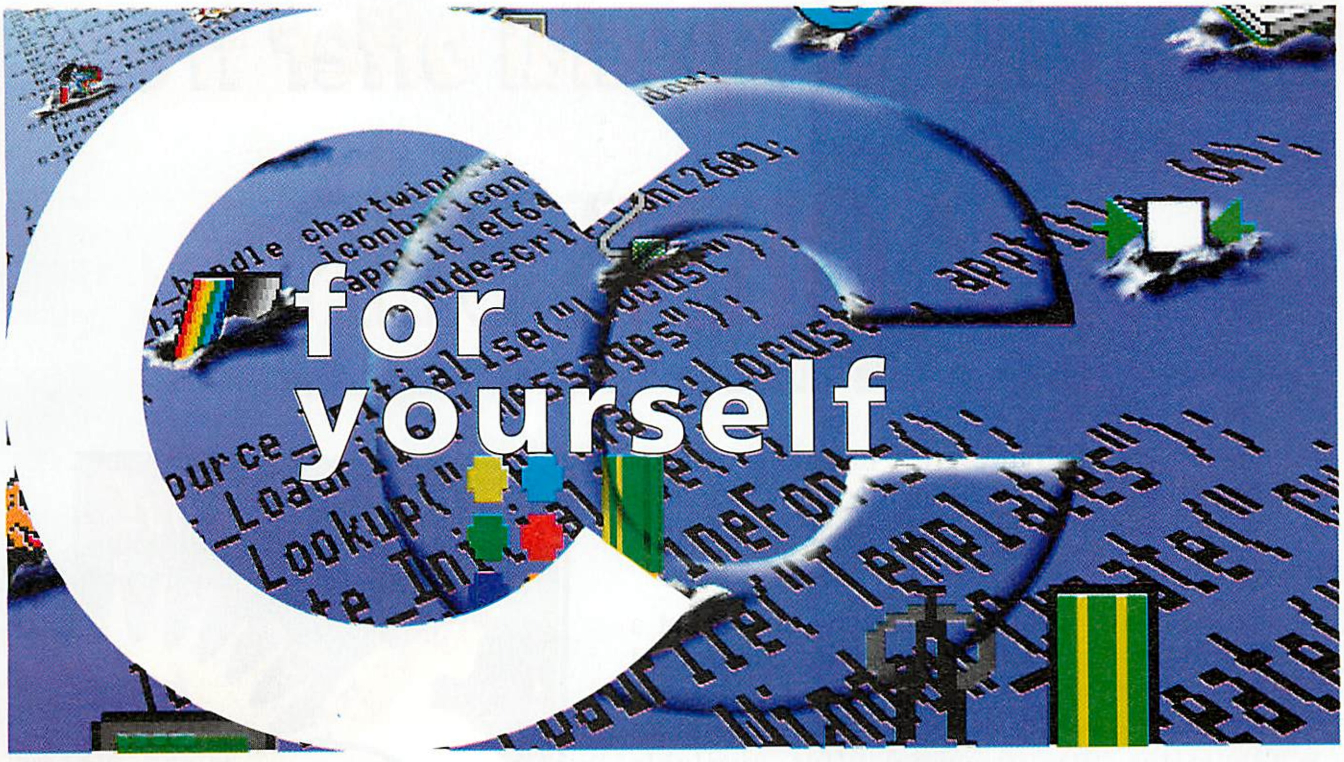
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C for yourself

JACK KREINDLER

Steve Mumford reads and writes data to the file

The actual process of saving a file is relatively straightforward – in this case I've simply opened a file with *write* access, then cycled through all the structures within the linked list, printing out their values to the open file.

Once the last record in the chain is reached, the file is closed, and at that stage can be filetyped according to the value originally submitted with the *DataSave* message. We've used the *fopen()* function before; we call it with two parameters – a filename and an access mode – and the value that it returns can be used as a handle to access that file.

To actually save the data to the file, I've used the *fprintf()* function – as its name suggests, it's very similar to *printf()* in layout and the only extra parameter it requires is a file pointer to determine the destination of the output it produces. The output can be formatted in exactly the same way as if you were printing to the screen. The general structure of the procedure is shown below.

```
FILE *file_ptr;
char filename[] = "testfile";
file_ptr = fopen(filename, "wb");
do {
fprintf(file_ptr, "%d\n",
current_record->jump_no);
/* Write data for each record here
/*
} while (FILE_END != TRUE);
fclose(file_ptr);
```

However, as discussed before, it's a good idea to include extra flags here and there to indicate such things as the program version number, the end of each record and the end of the file – the more work you do now to lay your data out in a rigid format, the easier it'll be to load the file again.

Loading files tends to involve a little more work – in this case, that's because the memory for the data structures has to be allocated as we go along, and we don't immediately know how many records we're going to read. Because I've used a textual format for the representation of our data, I also need to translate a couple of the strings into integers so that they match with the variable type that holds them in memory.

Be careful when reading in text from a file – some of the input functions in C terminate their input at any 'whitespace' character. So if one of the data fields contains more than one word and you were to load it using one of the above functions, everything after the first space would be lost. There would also be a chance of the 'lost' input clogging up the buffer and throwing the loading sequence out of step.

I've used the *fgets()* function to read each line of the saved file. This will terminate at a newline character and will treat a 'space' as a normal character – exactly what we want. It's wise to use a bit of 'scratch space' so that you can load a line of the file into a buffer, translate it if necessary and from there store it to its final home in memory.

```
char buffer[256];
FILE *file_ptr;
char filename[] = "testfile";
file_ptr = fopen(filename, "rb");
do {
/* setup storage space */
fgets(buffer, 255, file_ptr);
/* translate line and store it */
}
```

Several 'conversion' functions are available within C; I've been using *atoi()* to translate a string of characters into an integer – both the altitude of each parachute jump and the delay are stored in this format.

```
temp_ptr->altitude = atoi(buffer);
```

All that remains is to intercept the WIMP's message telling us that the user is trying to drop a file on us – it's got a message number of 3 and the full pathname of the file is stored 44 bytes from the start of the pollblock. It also contains data on the type of the file and its estimated size, as well as which window or icon the file was dropped on to.

All this information should be checked carefully – you don't want to go about loading any old file that comes your way, and you might want to respond to files dropped in a window in a different fashion to those deposited on the icon bar — merging instead of loading anew.

Finally, once you've loaded the data successfully, reply to the original message with *Message_DataLoadAck* so that the WIMP knows the operation has been a success. AU

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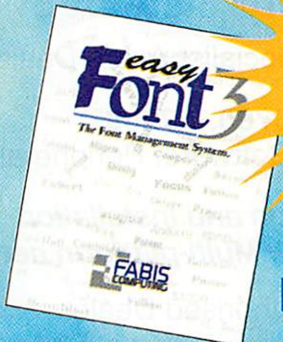
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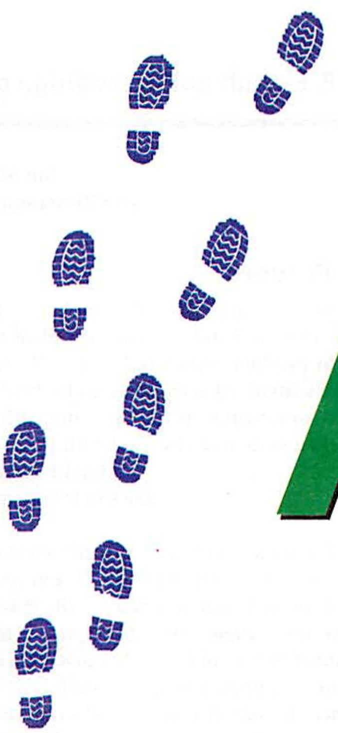
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CREDIT CARD ORDERS WELCOME



Rambles through Acorn Wood

Mike Cook wanders about in the undergrowth

Only a page of Rambles this month so let's dive straight into the tangle with Peter Miller from London who is wanting to expand his system:

> I have a Risc PC SA-110 with a normal 3.5 inch floppy disk drive and CD-ROM drive. I recently took my old Amiga 500+ apart and freed the disc drive. It is an Epson SMD-300. I wanted to see if I could put it in the free 3.5in drive in my second slice.
>
> First of all I tested it instead of the other floppy drive. I took the power and data connectors out and put them in the Amiga one. I put a DOS 1.44Mb disc in it and then clicked on the disc drive – it gave the error message:
>
> `the disc drive is empty`
>
> Therefore I put a native HD ADFS 1.6 disc in it and the same message appeared. I thought that it was probably a double density drive (although the HD options were there in the format box) so I went to the format option and chose 640K(L) (just to be on the safe side).
>
> The format bar went across and just as it was going to verify it, it said that the drive was empty. I noticed that on the data pins at the back (the long strip of pins) there was one missing and on the same place on the cable that was used in the Amiga there was a white block. I therefore thought that this might be a pin stuck in the connector so I used that cable and still the same results.
>
> If I could get this drive or anything else for my second slice, firstly how would I remove the panels where the front of the drives would go, and secondly where would I connect it as I don't see any spare ports or data wires inside the computer?

Let me say that fitting a second floppy disc to a Risc PC is not officially supported by Acorn. That's not to say it can't be done but Acorn accepts no responsibility if it doesn't work which it won't do with all disc drives. As you have found out an Amiga disc drive is a non-standard type having more in common with the Macintosh ones.

It is possible to fit a second floppy but the work involved depends on what issue of motherboard you have – it becomes easier the later board.

Basically you make up a daisy chain lead with the existing floppy drive and then add in the drive select line, pin 14 of the floppy bus and the *motor on*, on pin 16.

If you have an Issue 1, the drive select line was never tracked off the 37665 pads. You need to locate pin 3 (DS1) on the 37665 and solder a flying lead to it and then take it to a buffer. Also pin 18 appears to be the motor on for Drive 1 that will need buffering as well.

It is possible to fit a second floppy but the work involved depends on what issue of motherboard you have – it becomes easier the later the board

Issue 2 PCBs, which were shipped from October 94 until the release of RISC OS 3.6, had this track on (a useful note when it comes to distinguishing the boards) and some buffering. However, it was found, that the buffering only worked with a small number of drives.

Issue 3 PCBs came in with RISC OS 3.6, and involved some further improvement in the buffer logic, however, this still didn't fix the problem with all floppy drives and so the option remained officially unsupported.

So, if you have an Issue 2 or Issue 3 board, most of the support logic is there and it's just a matter of buffering.

Norwich Computer Services now have an adaptor called an "Actilead" which does some extra buffering and line level amplification, and as such enables more drives, but by no means all, to work. Thanks to David Walker at Acorn for some of that information.

Robert Furness from Brighton is having problems with his monitor, he writes:

> I have an Acorn A3000 which connects to an RGB monitor using a 9 pin to SCART lead. Recently I purchased a 14in Sony Trinitron colour TV Model KV-14M1V which has a SCART socket. When I connected the A3000 to the TV the desktop display appears on the screen briefly then the picture blanks out completely.
>
> I am fairly sure that the TV is working correctly and I suspect that some additional signal is needed to be sent to the TV to stop it blanking out.

Assuming you have tried the TV options of switching over to the SCART socket on the remote control I think the problem might be one of the switching signal. The SCART plug has two pins that control the switching between the internal (TV) and external video source. Pin 16 selects the video and pin 8 selects the source of sync signals.

This was designed so that teletext decoders could be plugged into the socket and overlay the display on the picture. Therefore what you need to do is to ensure that both these pins carry the same signal. You will probably get away with just giving a 5 volt signal on these pins although some TV sets need as much as 12 volts to switch over.

By the way SCART is a French acronym which stands for *Syndicat des Constructeurs d'Appareils Radiorecépteurs et Téléviseurs* which, roughly translated, means The Association of Radio and Television Manufacturers. AU



Jon Miller
jlm30@cam.ac.uk

3D Power?

I've heard that a new 3D graphics system known as the PowerVR, can be linked up to PCs to produce amazing images. However, the PCs involved seem only to be Pentium-based machines. Will it be possible for PowerVR systems to be used with Risc PCs?

Shashi Chander
c9581454@wlv.ac.uk

This is both a simple and difficult question to answer. There are lots of 3D accelerator boards for IBM-compatible PCs, the PowerVR is just one of them. All of them plug in to PC-standard buses, and Risc PCs don't have one of those — but they will, eventually.

Once they do, it will be a relatively simple matter for 3D applications and games to detect such a board and feed it with polygon information instead of rendering the shapes themselves. But only if the authors bother to support them, these boards are an added

let

Internet not so great?

I read with great interest Mike Tomkinson's comments in the January issue. However, I wonder if the Internet is as much use as he suggests. Sure, it's useful for those in the publishing industry for transferring large documents to and from a printer, and net access is vital for journalists to obtain press releases and the like.

But for the vast majority of companies, it is totally useless. For a small business — and a not unsubstantial number of Acorn users do run these — the world wide web is a useless advertising medium simply because their potential customers will never see it. After all, if you want a builder, you look in Yellow Pages, not on the Internet.

Mike also suggests that the fax machine should be consigned to the scrap heap. Yet a plain paper fax has a number of advantages over e-mail. Firstly, it is immediately on someone's desk screaming to be read and many people only download e-mail once a week. Secondly, while you can't prove what you have sent, you can prove that you've sent *something* because you get the transmission report and the number on your phone bill. Thirdly, it is not possible to transfer signed contracts by e-mail, while you can by fax. Finally, faxes are immediately received — some e-mails can take a day to receive their destination.

In conclusion, Mike is right to suggest that online communication is the way forward, but I think it needs to be more widely accepted before it will be of use to most people.

Alex Singleton
singleton@moose.co.uk

Appreciate Chuckie Egg!

I'm sure all your readers will all be delighted to learn that the Chuckie Egg Appreciation Society is now online at http://djs55.robinson.cam.ac.uk/chuckie/ and at http://www.geocities.com/Silicon Valley/5812/chuckie.html during university holidays.

expense and it's doubtful whether many people will buy them. Games are less likely to support them than specialist applications.

Having said that the speed of desktop machines is increasing all the time and while the potential of a multi-StrongARM machine may not match a dedicated processor, it will be plenty fast enough for most 3D applications.

Web index

In the December 1996 issue of *Acorn User* Mr Clint Lees wrote a letter requesting that the magazine publishes a Web pages list like the advertiser's index. Well I've taken up the challenge and published a list on my web site at:

`http://village.vossnet.co.uk/d/drmadge/acorn.htm`

I hope this page proves useful, any comments always welcome as this is my first try at setting up a web page.

David Madge
drmadge@vossnet.co.uk
Madge_D@msn.uk

Building blocks

I am a second year Architecture student in Manchester and I own a Risc PC 700 with 4Mb RAM. As most people know architecture is about communicating your ideas for a design to the people who matter, either tutors as in my case, or clients. The vast majority of this communication is in the form of measured drawings and 3D perspectives.

I've found most of my time is wasted redoing the same drawings but altering only minor details and clearing up mistakes. So I have decided that investing in a CAD package could be a good idea. I'm mainly interested in doing 2D design but also some 3D. Are there any good (low cost!) CAD packages available for RISC OS that I can print out in college? I think they use the DXF standard for their plotters.

I really need something cheap since I am on a limited budget and the student loan was used for the computer. Does anyone have a second hand package they are willing to sell? Alternatively, is their any way of converting drawfiles into DXF files?

Andrew Wall,
8 Kingswood Road, Fallowfield
Manchester, M14 6SB. Tel: 0161 225
9235. E-mail: 95052534@mmu.ac.uk

You should take a look at ProCAD from Minerva.

Let's hear it for the NC

I really hate having to say this, but I cannot see the NC being a success for Acorn. They deserve it more than anyone else but outside the Acorn press I haven't heard about the NC at all.

That's right, no adverts, no nothing. The audience Acorn are aiming at will be people who have never had access to the Internet. This means that they don't currently pop down to the newsagents every month to get your magazine, the only place, other than my Clan mailings, where I have heard about the machine which is. Acorn's got a good machine but they really need to advertise and ram it down people's throats like that herbert by the name of Gates when launching Windoze 95.

J Robinson,
Y91.ROBINSOJJ@bgoresch.demon.co.uk

Well if you haven't heard anything about the NC then you just haven't been looking in the right places. Although it's quietened down a bit now there was plenty in the computer press over the last few months.

You can expect the individual companies that sell Acorn-based machines to do their own promotion in the popular press when they are released. They may not mention Acorn though.

Get Netted

I want to thank everybody who has been writing to me about the letter I had published in the January issue. I have had very helpful discussions with some of the correspondents, and because of them, I do not feel so alone in my support of Acorn in the design world.

Now a quick plug. I have a Web page called *Get Netted* which provides links to all sorts of sites. Each month, a themed article is put online containing links to various places. These articles are published in Staffordshire University's student rag, *Get Knotted*. So it was a natural progression to get a Web version up and running.

All the graphics and original HTML were done on a Risc PC using *Artworks*, and various freeware Web design utilities (*Zap, Webite, Web2Gif* etc.), so if nothing else, it's an example of some form to those who want to run a Web site. And the graphics look fresher on an Acorn browser than Netscape!

The page is at: http://www.geocities.com/SiliconValley/Pines/2760/Netted.html

If you remove the Netted.html bit, then you will find a page of Acorn stuff I have done, along with my brother. Software, piccies and (if I can fit them on the server) movies by myself from my degree course.

Thanks for your attention and keep up the good work.

Stephen Scott,
dc5bass@cr47c.staffs.ac.uk

IMS Readers

Although I work for IMS, this letter is from me personally and not official company correspondence. In the letters section of the February *Acorn User*, John Burchmore states that the Dorling Kindersley Family Library are actively promoting IMS' conversions of Dorling Kindersley CDs.

Although DKFL did at one time purchase a number of readers from IMS, they are no longer doing so because the independent distributors were not really geared up to selling Acorn versions. There were many instances of Readers being sold with the wrong CDs and packages being sold to owners of underspecced machines such as A4000s ("It's got RISC OS 3 – that must be the same as ARM 3").

So for the time being DKFL have stopped buying Readers – for example they do not have any for the *Ultimate Human Body*. They will continue supplying old readers — all are several versions older, and far less efficient than those currently supplied by IMS — for other products until they run out.

Note though, that this certainly does not mean the end to such conversions as several usenet pundits extrapolated. Dorling Kindersley themselves are still supporting the development of more readers – it just means that they will not be buying any more for the Family Library.

Paul Corke,
Innovative Media Solutions Ltd

Correct Angband

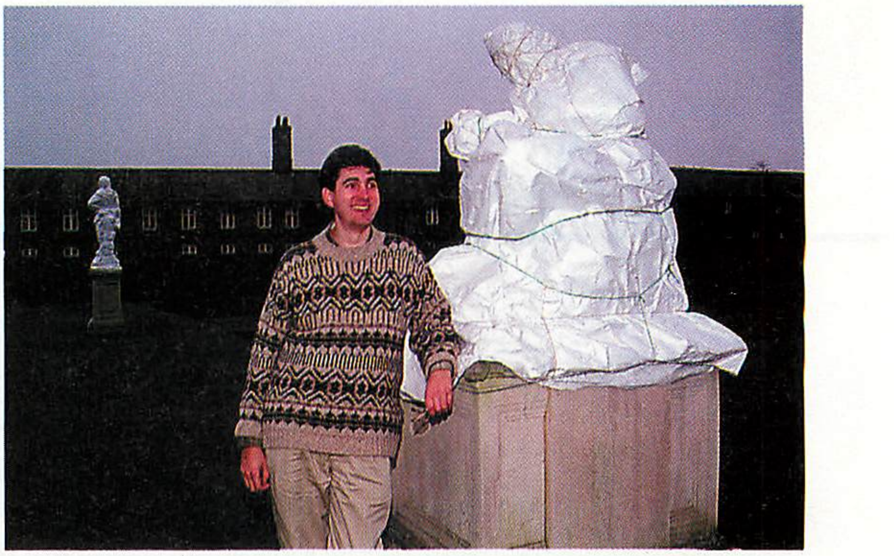
In *NetHack and Slay*, Feb 97 pg54-55, the ftp address to acquire Angband as given no longer gets you there.

`ftp://ftp.export.andrew.cmu.edu`

does, then look in */angband/Acorn* and oh dear, it IS very addictive!

Jonathan Conner,
jonathan.conner@argonet.co.uk

Yes it is.



The Regan files

Stephen Streater

> **'My favourite hobby is sleeping'**

My great uncle Richard used to say: 'In life there are two types of people: drivers and passengers. And you, my dear, will always be in the driving seat.' (An interesting observation from someone who was Lawrence of Arabia's driver.)

Today, for once, I feel like a passenger. I am with Stephen Streater, the co-founder and director of video technology at Eidos plc. Eidos is the company much envied in the Acorn market because of its immense success. Its original product was *Optima*, a digital editing system on Acorn machines which is widely used by professional video editors. Next time you watch something like *Tomorrow's World*, think Eidos.

Stephen learnt his most vital lesson about running a business at college, which was not to be afraid of employing people who are better than him. Having been taken ill in his finals, he 'under-achieved' and only got a 2:1.

'I realised that I didn't want Eidos to suffer just because I might be ill,' reasons Stephen. 'I feel a lot of people running businesses employ less able people so they can have an ego trip, or they do not let other people run things because they cannot bear to lose control of their company. Both are bad; I hope in the end the business will run without me.'

If that ever happens, he's got plenty to occupy himself. He plays the viola and is involved with several orchestras, although he admits: 'My favourite hobby is sleeping.'

Eidos is fast becoming a High Street name due to the games it has developed and published. These aren't Acorn games – and may never be – but games like *Tomb Raider* regularly feature in the bestseller lists.

'It is a bit hard to convince the world's biggest companies that you are the guy they should be dealing with when they've never heard of you,' explains Stephen. 'Eidos – the name – had to be bigger and the games companies we bought get us known.'

So many people I meet are coy about success that Stephen's easy self-confidence is very refreshing.

'I always liked money,' grins Stephen, whose venture into business started young. 'I set up a bank for my family when I was younger. You see, we never got pocket money on time. My idea was to have the money and then pay my brother, my sister and myself on time, so I managed to extract large sums of money from my parents in order to do this.'

This uncanny ability to get people to invest money in his ideas seems to have stayed with Stephen. Eidos was set up at what was probably the worst time ever. It was 1990, the '80s were over, Margaret Thatcher was enjoying her last Prime Minister's question time and business interest rates were at 15 per cent. Stephen was PhD-ing in London – where better to acquire a venture capitalist from?

'Normally you set up companies with £100 but I could not afford that, so my initial investment was 4 shares for £4. I started with a guy who was a video editor, who could help us with video editing and that was our first product. He put in £4 too.

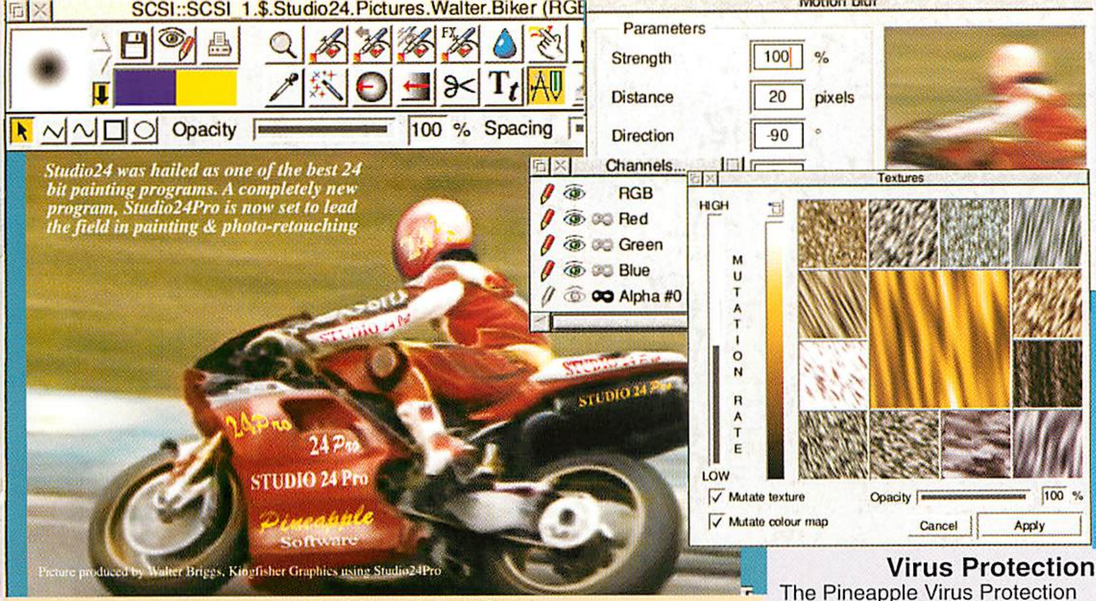
'Then we did a 10,000 for 1 share issue. We ended up with 40,000 shares each, with 20,000 on share issue which our venture capitalist bought at one pound each. This £20,000 was just a speculation to see if it was possible to build the system we were doing on an Acorn machine. I built a prototype with £10,000 and we blew the rest exhibiting at the IBC Biennial which happened to be in Brighton.

'We got 40 people saying it was amazing and that they might buy, so the venture capitalist thought it was worth going the whole hog and getting a floatation on the stock market. This is very unusual for a company which is actually new technology. We decided to raise a million pounds and value the company at 2.2 million. It was high risk.'

How to be a millionaire in the Acorn market; sounds simple if you say it quickly. But Stephen's ambitions are a bit higher: 'My first billion. When you have a billion pounds you can actually change the world. Anyway, as Bill Gates said: "Once you have made your first 50 million the rest is just for fun"...'

If I've got to be a passenger for a day, at least it's to a man who knows where he's going.

Jill Regan AU



Picture produced by Walter Briggs, Kingfisher Graphics using Studio24Pro

Many Acorn User front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool'. - *Acorn User March 96*

Studio24Pro
£149.87 inc vat

Special Offer!
Studio24 v1 £35.00



!NEW! Casio QV10 Digital Cam **£410.00**

The Casio QV10 Digital Camera is now available for Acorn Computers. It is supplied complete with all cables and software. Stores up to 96 images.

Removable Harddrive System



Total Data Security & Harddisc Backup

The removable harddrive system fits into a 5¼" drive slot in the RiscPC and harddrives are available in many sizes which can simply plug in and out of the slot as required. The drive may be locked in place to prevent unauthorized removal. For total security the drive may be removed and stored in a safe place to prevent unauthorized access to your data. Because the removable drives are available in any size (up to at least 4Gb) they are also ideal for use as backups for existing drives, and may be transported between different computers.

PAL TV Coders



PLC/3 £104.57

The PLC/3 PAL TV Coder works in any of the 'Standard' Modes, e.g. mode12 and 15 on all Acorn computer models. The PLC/3 has a 15 pin RGB output for the monitor, a BNC for video and an S-VHS connector for S-Video. The PLC/3 will work with RiscPC computers although the AKF60 and AKF91 will not work at the same time.



AVK/3 £325.00

The AVK/3 will work with all computer models in all screen modes up to 800 x 600 resolution in 16 million colours. It has a remote control with facilities for zooming, freezing & panning the TV picture. The AVK/3 includes all connecting cables including a SCART which gives TV frequency RGB O/P for large screen TV's, a phono socket for composite video and an S-VHS socket for S-Video.

!NEW! A new model, the AVK/5 is similar to the AVK/3 but has the added feature of remote mouse operation using the infra red hand held remote control. This enables lectures and demonstrations to be done without having to sit at the computer keyboard. **AVK/5 £425.00**

ArtWorks Video Tutorial



Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks Video Tutorial £19.99

24 Bit Colour Scanners **!NEW!**



Pineapple offer a wide range of Flatbed A4 colour scanners. (At NEW LOWER PRICES - see opp.) The cheapest in the Epson range is the GT5000 with an optical resolution of 300dpi. This is adequate for virtually all home use. The GT5000 is available with either a parallel or a SCSI interface. The *NEW* GT9500 is the top of the range with an optical resolution of 600dpi and both parallel and SCSI interfaces. Imagemaster and Twain software are included in the price, but we also offer our Studio24Pro Photo re-touching software at just £80.00 inc vat with every scanner purchase.

Virus Protection



The Pineapple Virus Protection Scheme will allow you to detect and remove over 100 viruses from your Acorn computer.

'If you're interested in virus protection, join the Pineapple virus protection scheme and buy Killer. Accept no alternatives.' - *Acorn User Feb 96*

Multimedia Speakers

Yamaha 10 Watt	YST-M15	£63.00

A4 Colour Scanners

Primax Flatbed A4	£359
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Epson GT5000 (SCSI)	£469
Epson GT8500	£529
Epson GT9500	£679

All scanners include Imagemaster & Twain. Studio24Pro at just £80.00

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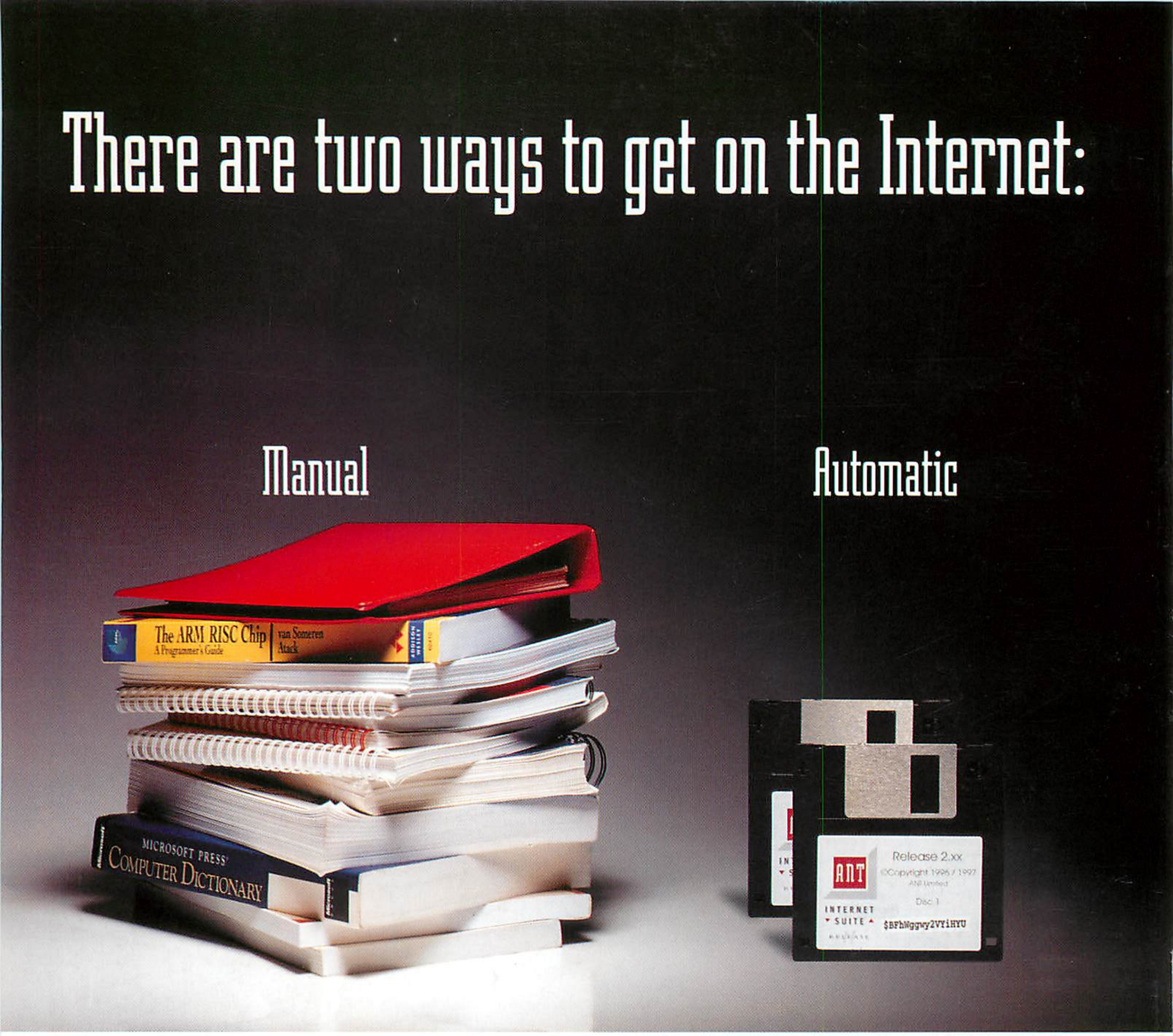
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'Pineapple offer some of the finest and friendliest after-sales support you will find' - Acorn User Mar 96

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